2011 KX Technical Data

'11 KX250YBF
Main Specifications

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Kawasaki Motors Corporation Japan

Kawasaki

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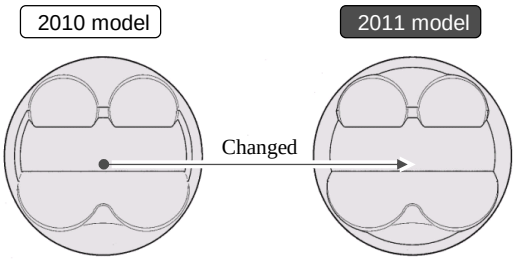
1. New Technology Information

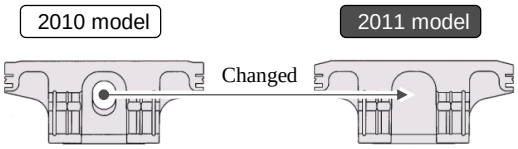
2011 KX250F

○ Piston

- The piston head has been redesigned to improve engine performance at high-speed and overrun areas.

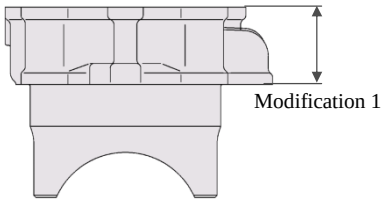


- The side hole of piston pin is not used.



○ Cylinder

- The cylinder height has been changed (Modification 1) and the piston head has been reshaped, therefore, the compression ratio has been changed (Modification 2).

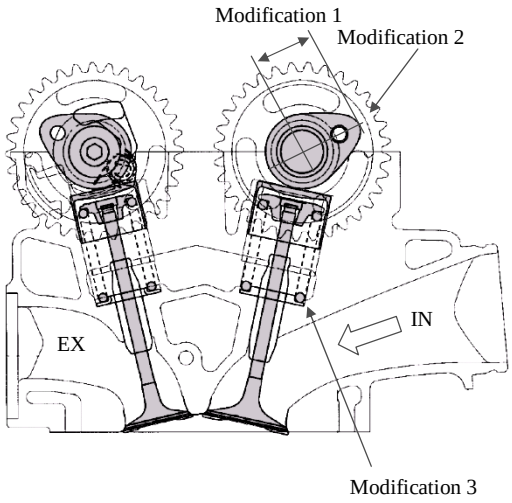


Modification 1	2010 model	2011 model
Height	36.5 mm	36.3 mm

Modification 2	2010 model	2011 model
Compression ratio	13.2 : 1	13.5 : 1

○ Valve system parts

- The extent of lifting (Modification 1) and the profile and valve timing (Modification 2) of the intake camshaft have been modified.



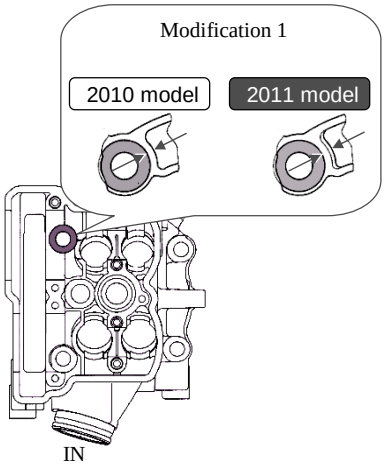
Modification 1	2010 model	2011 model
Extent of lifting	8.7 mm	9.3 mm

Intake valve timing		
Modification 2	2010 model	2011 model
BTDC	41 degrees	40 degrees
ABDC	71 degrees	72 degrees

- Due to the change of the extent of lifting of the camshaft, the load of the intake valve spring (Modification 3) has been modified.

○ Cylinder head

- The wall thickness of the cylinder head bolt, shown at right, was increased by 1.5 mm (Modification 1) to improve reliability.



Modification 1	2010 model	2011 model
Wall thickness	3.0 mm	4.5 mm

○ Crankshaft

- Due to the change of flywheel, the diameter of the crankshaft has been increased (Modification 1).

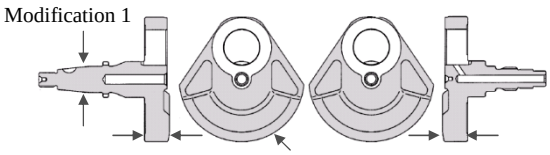
Modification 1	2010 model	2011 model
Shaft diameter	18 mm	21 mm

- Also, the crankshaft web has been redesigned (Modification 3). (Reduced inertial moment for 4 kg-cm^2)

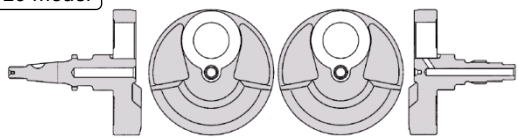
Modification 2	2010 model	2011 model
Web dimensions	23.5 mm	21 mm

- The balancing ratio is the same as that for KX250XAF. (60%)

2011 model



2010 model

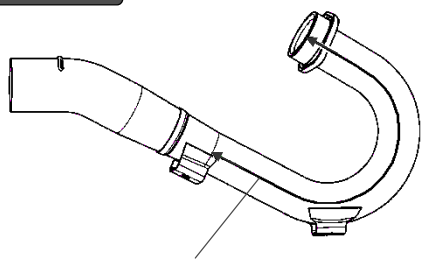


○ Exhaust pipe

- The length of the exhaust pipe has been changed (Modification 1) to improve engine performance at low speeds.

Modification 1	2010 model	2011 model
Web dimensions	480 mm	510 mm

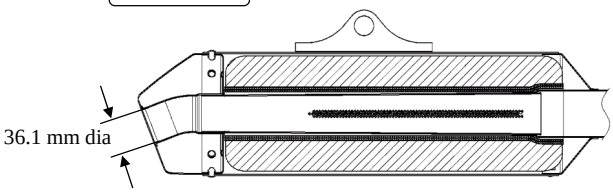
2011 model



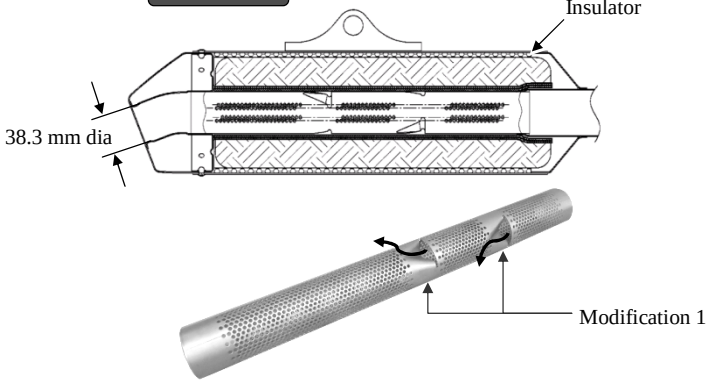
○ Silencer

- Four induction ports have been added to the punching pipe (Modification 1) to make the exhaust gas toward the glass wool.

2010 model



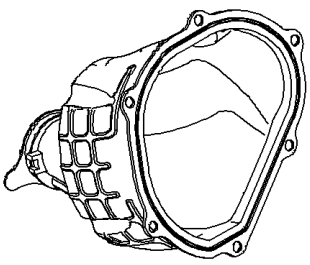
2011 model



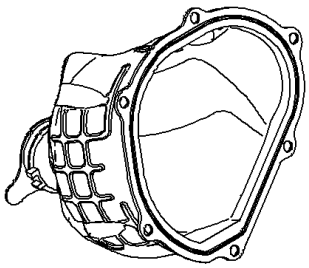
○ Air cleaner duct

- The duct and funnel capacity has been increased by 10% to improve engine response at low speeds.

2010 model



2011 model

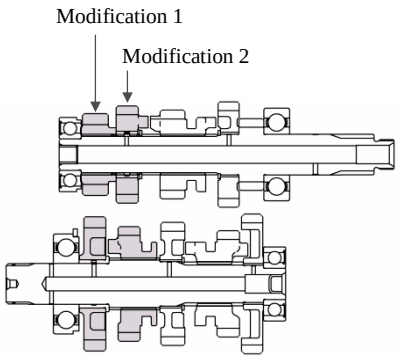


○ Transmission

- The transmission gear ratio has been changed to improve engine performance.

Modification 1	2010 model	2011 model
2nd gear	1.769	1.750

Modification 2	2010 model	2011 model
4th gear	1.200	1.235



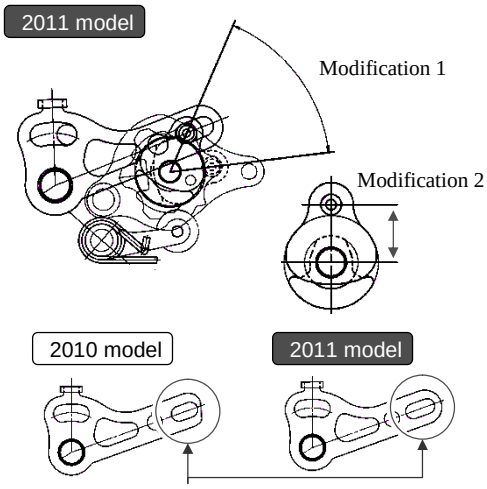
○ Gear change mechanism

- The ratchet rotation angle has been changed (Modification 1) to ensure smooth gear change.

  Due to this change, the ratchet size (Modification 2), gear change shaft design (Modification 3), and the return spring tension have been modified.

Modification 1	2010 model	2011 model
Rotation angle	53.1 degrees	60.0 degrees

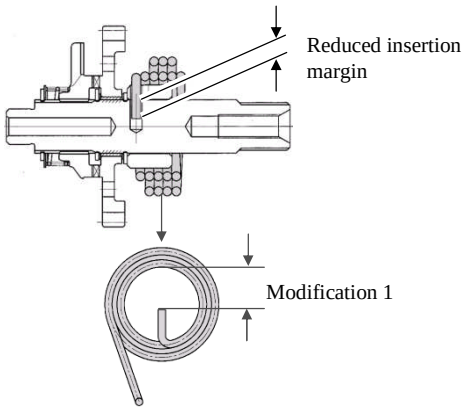
Modification 2	2010 model	2011 model
Length	19.5 mm	17.0 mm



○ Kick

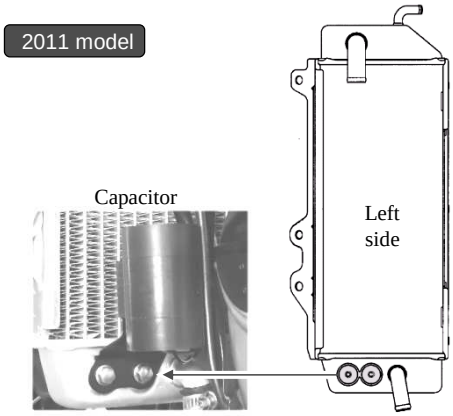
- The spring length has been changed (Modification 1) to improve parts assembly efficiency.

Modification 1	2010 model	2011 model
Length	16.9 mm	17.4 mm



○ Radiator

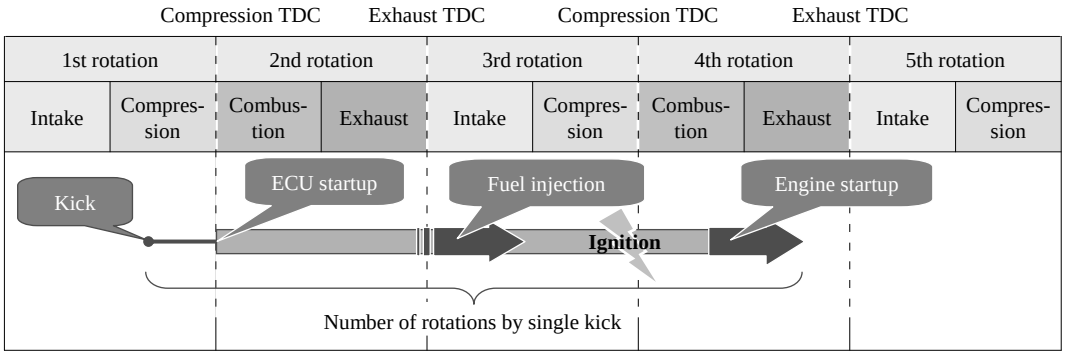
- A capacitor has been added to the left side of the radiator after the DFI module was installed.



○ DFI System Operating without Battery Power

- Outline

The same DFI system, that is operated without battery power, as that of the KX450F 2010-year model is used.
When kick starting, the ECU startup time is reduced to facilitate easy starting of the engine.
When compared with carburetor models, you do not need to operate the hot starter lever when restarting. You can start the engine more easily using the kick lever on the 2011 model.

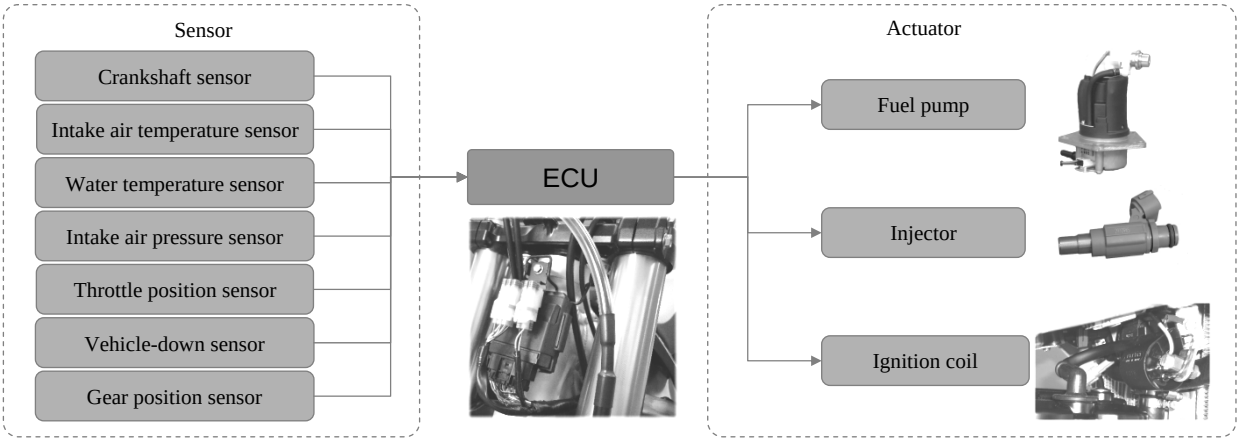


① Electricity is supplied to the ECU, fuel pump and injector in that order.

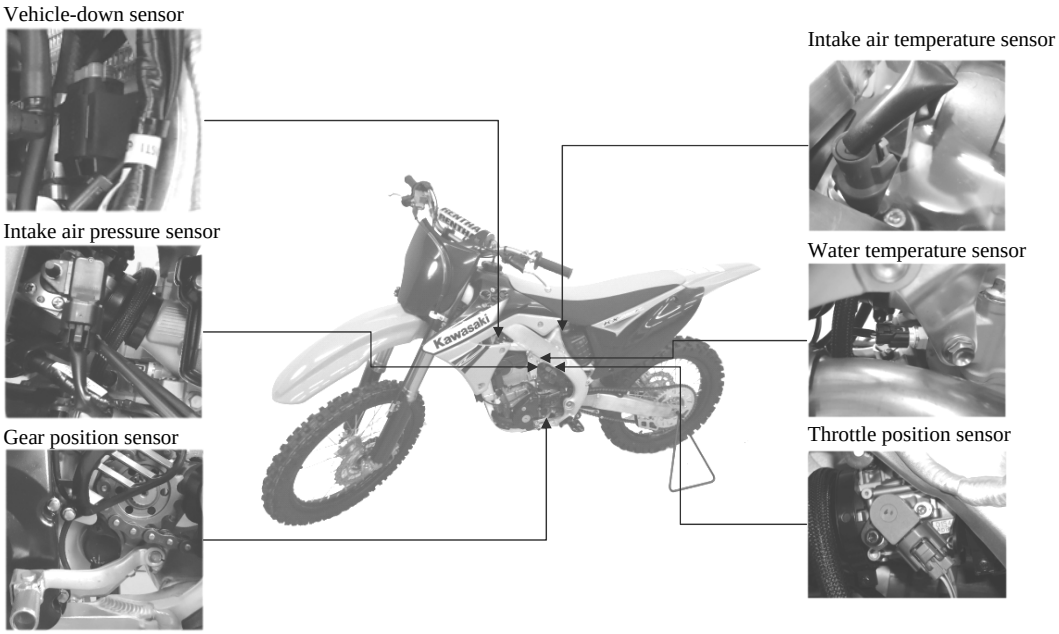
② If the engine is already warm, it can be started a single kick.
(You can start the engine by rotating the crankshaft 3 times.)

- DFI system components

The ECU processes the following sensor information and controls each actuator.



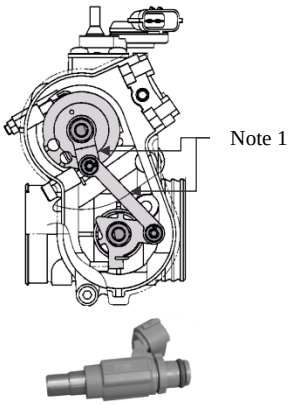
- Mounting position of each sensor



- Throttle body

  The throttle body having the bore diameter of 43 mm is used. This is similar to the one mounted on the KX450F.

  This throttle body contains two link shafts (progressive throttle link, see Note 1) and allows the air flow that is equivalent to the FCR carburetor in a small throttle opening. When the throttle is opened more than 3/8, it opens even quicker to provide a sharp response and a sensation of power.



- Injector

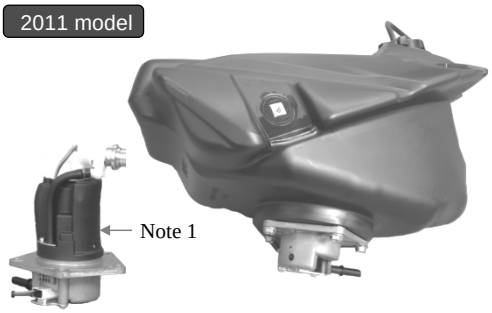
  Fuel injection has been set according to the engine characteristics.

  (The fuel injection capacity is approximately 20% higher than that of the KX450F model).

- Fuel pump

  The same fuel pump as that of the KX450F 2009-year model is used. As the fuel level changes significantly when you jump in, foe example, motocross riding, the fuel pump is protected with a rubber fuel filter cover in order to ensure stable supply of fuel (Note 1). This cover closes the fuel inlet port and functions as a fuel trap. In addition, the fuel return hose, which is connected between the pressure regulator and the fuel filter cover, always keeps fuel in this fuel trap.

  (The capacity of the fuel tank has been changed from 8 liters to 7.5 liters.)



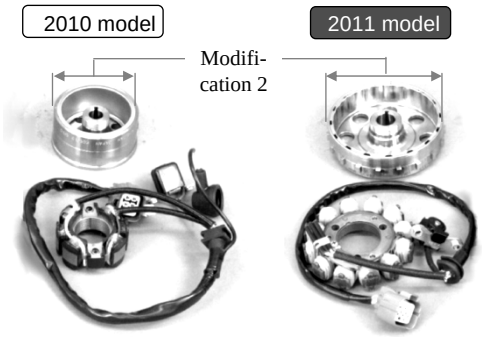
- Generator

  The inertia moment has been changed (Modification 1).

Modification 1	2010 model	2011 model
Inertia moment	Approx. 4.4 kg-cm^2	Approx. 9.0 kg-cm^2

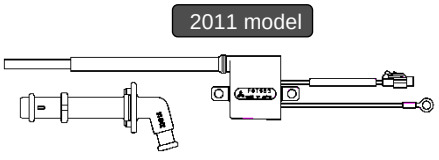
* The output characteristics remain unchanged.

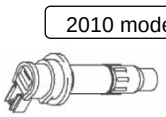
Modification 2	2010 model	2011 model
ACG rotor	76 mm dia	100.7 mm dia



- Ignition system

  The static coil has been changed to the ignition coil to improve engine characteristics.





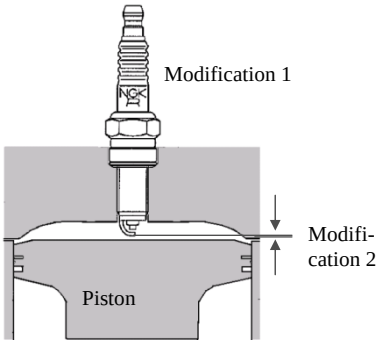
- Spark plug

  The spark plug has been changed to close the electrode to the center of combustion chamber (for improvement of combustion performance).

Modification 1	2010 model	2011 model
Spark plug	CR8E	CPR8EB-9

Modification 2	2010 model	2011 model
Extent of fork bounce	2.5 mm	1.1 mm

* Distance from the top end of the electrode to the cylinder head surface

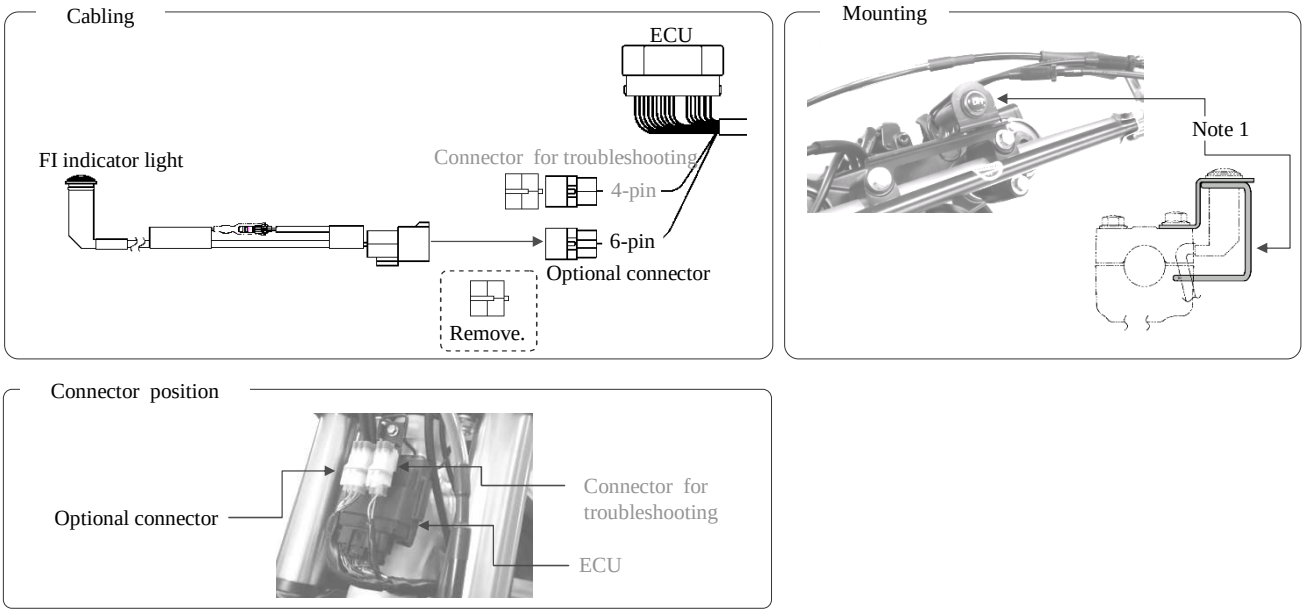


- Troubleshooting

① FI indicator light (optional, part No. 23016-0049)

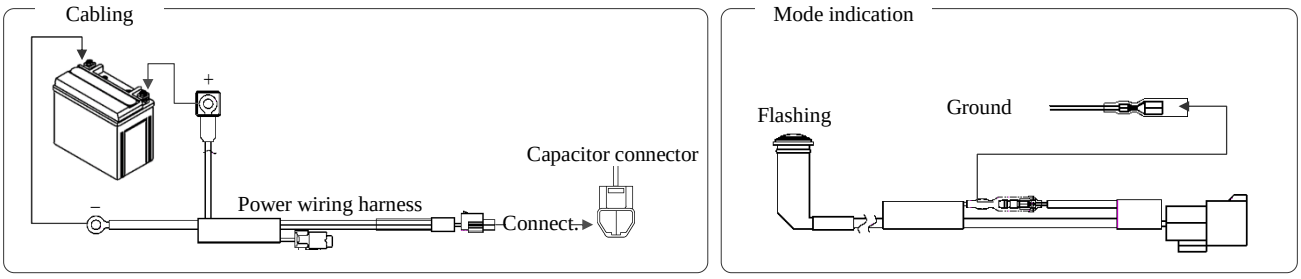
If the DFI system or ignition system part fails, the indicator lights up to warn the rider.

Mount the FI indicator light on the handle holder using the bracket (part No. 11055-1673) (Note 1). Then, remove the empty connector (optional) and connect the signal cable.



② Troubleshooting using the FI indicator light (optional)

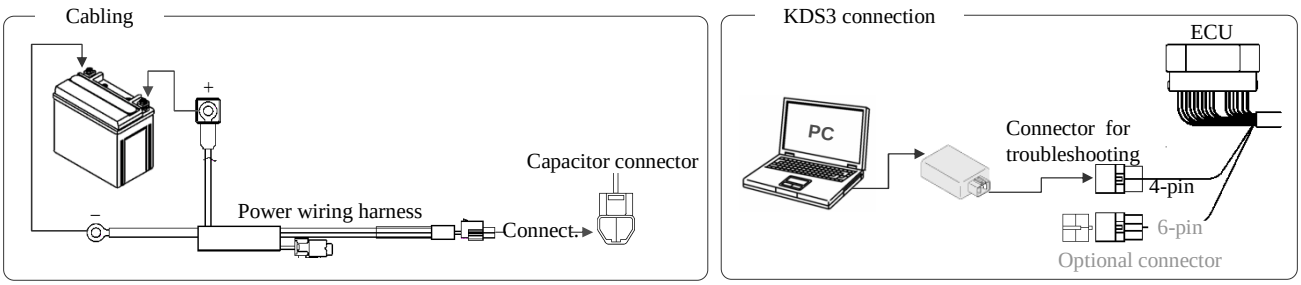
Remove the capacitor connector, connect the power wiring harness (part No. 26011-0246), and connect it to the battery (12 V). Then, ground the GND cable of the FI indicator light. The system enters the DEALER mode and you can troubleshoot by checking the flashing of the FI indicator light.



* For details, refer to the Service Manual.

③ Troubleshooting using the KDS3

Remove the capacitor connector, connect the power wiring harness (part No. 26011-0246), and connect it to the battery (12 V).



* Troubleshoot the DFI using the KDS3.

○ KX Racing Software (Optional)

- Outline

  KX Racing Software can set the ECU data, and save and analyze the engine operation data on a personal computer (PC).

- Main functions

  ① Data setting function

  By connecting the PC to the ECU of motorcycle, you can change the amount of fuel injected and ignition timing settings of the engine. Also, this software contains sample data of the KX450F 2010-year model , and the KX250F and KX450F 2011-year models that can be used for setup reference.

  ② Data recording function

  The engine speed, throttle opening, and various other trip data can be recorded in the ECU controller.
  The recorded data can be displayed and analyzed on a PC using a simple analysis graph.

  (The recording items are: the recording start and end trigger types, sampling rate, recording mode, and others.)

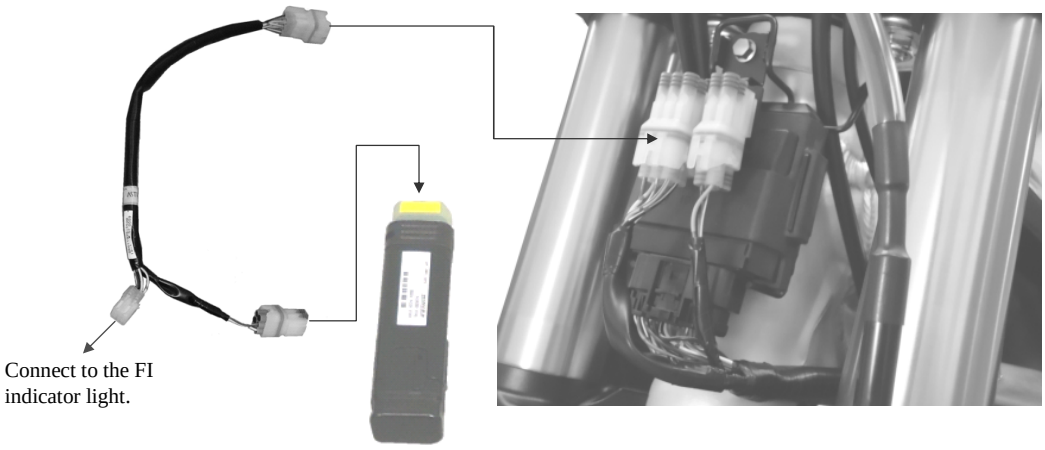
* For detailed information, please refer to the Kawasaki Racing Kit Manual that will be released at a later date.

- Connection to the motorcycle

  The ECU controller terminal is now mounted at the rear of the front number plate on both the KX250F and KX450F 2011-year models, although it was mounted under the gasoline tank on the KX450F 2010-year model.

Mounting the ECU controller

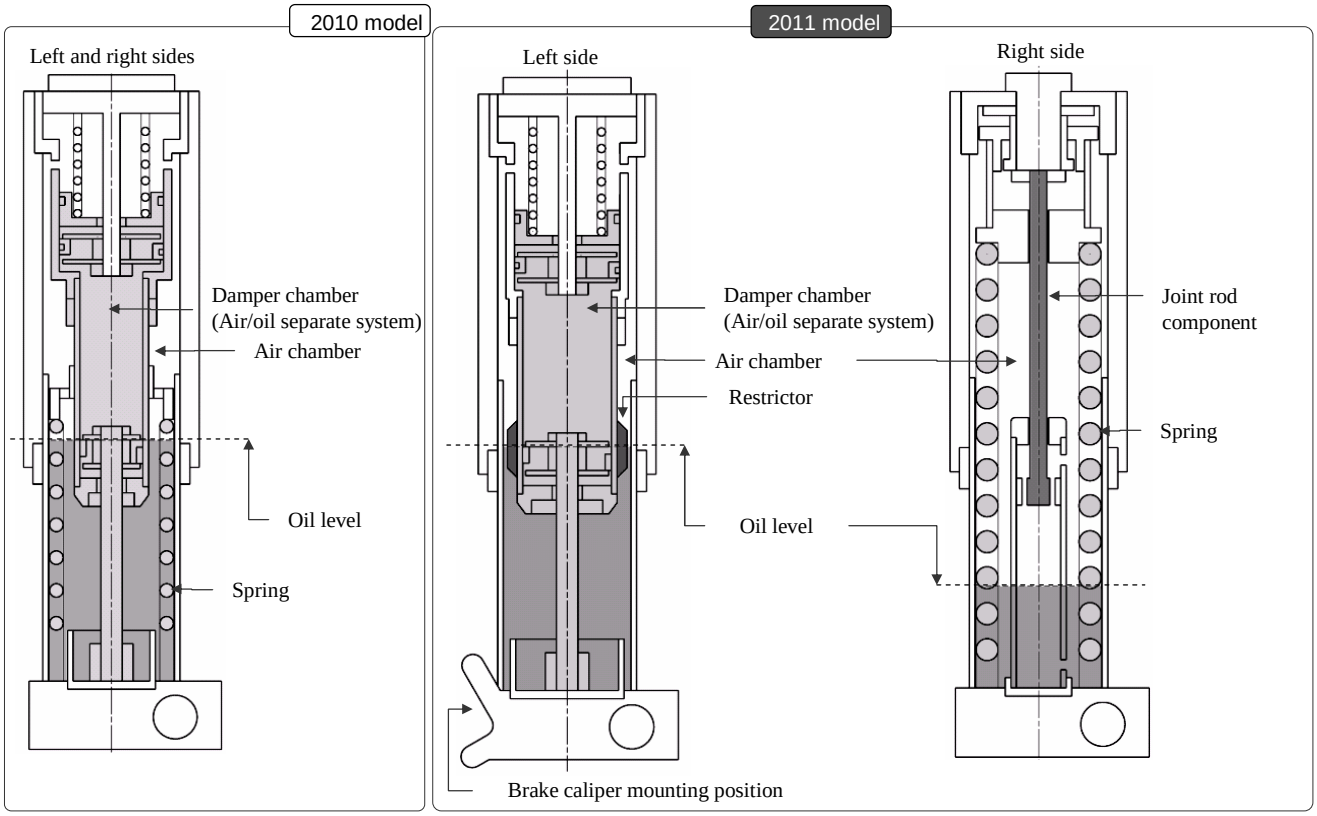
Be sure to mount the ECU controller by using the brackets and sub-harnesses contained in the controller package.



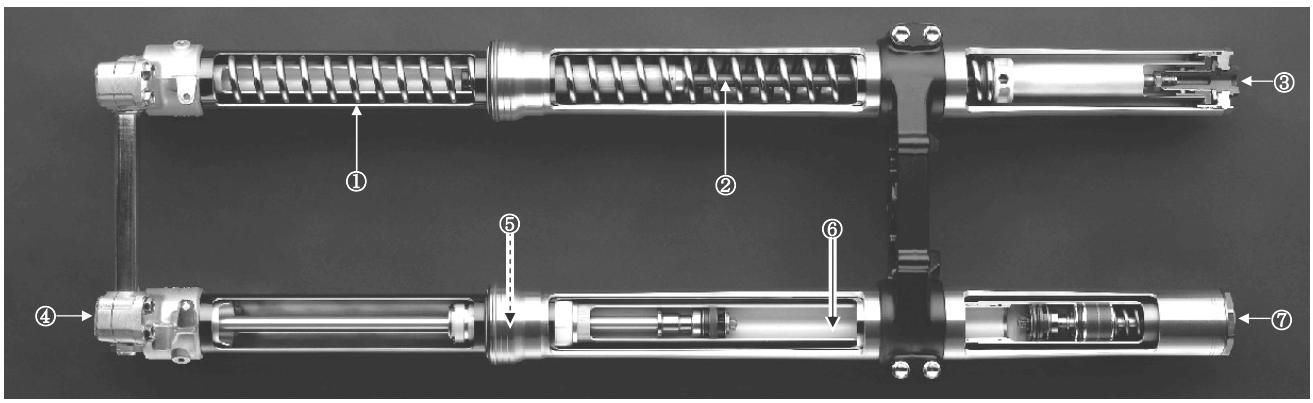
* For details, refer to the Service Manual (contained in the package).

○ Front fork (SFF: Separate Function front Fork)

- The SFF is first used on the MX-series machines.
- The damper and spring functions are divided into left and right sides.
  ① The low friction parts to allow smooth operation and stable damping characteristics.
  ② Light weight
  ③ The preload adjuster has been added to allow wider settings.
- After the following four modifications were carried out, the imbalance of left and right characteristics has been eliminated, and the impressive handling performance has been achieved.
  ① The taper of the outer tube has been redesigned and the torsional rigidity has been improved.
  ② The spring was mounted in reverse on the front brake caliper, and the difference between left and right mass has been reduced.
  ③ A joint rod has been added to the inside of the right front fork, and the rigidity of the left and right forks has been equalized.
  (The joint rod also functions to restrict the fork to stretching fully and moving to the center of the spring.)
  ④ The left front fork has a restrictor to limit the oil flow through the outer cylinder, and the damping force increases when the suspension stroke increases. (Additional damping force is dynamically added in the intermediate stroke range of the left front fork.)



2011 model

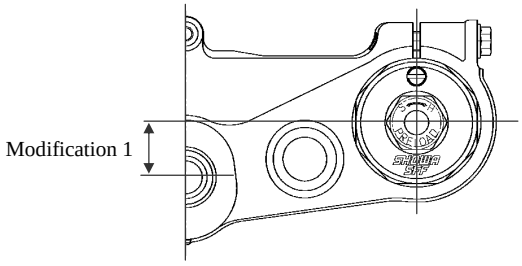


① Spring ② Joint rod ③ Preload adjuster ④ Damping force adjuster when extended
⑤ Restrictor ⑥ Damper chamber (Air/oil separate system) ⑦ Damping force adjuster when compressed

- Front fork offset (Modification 1)

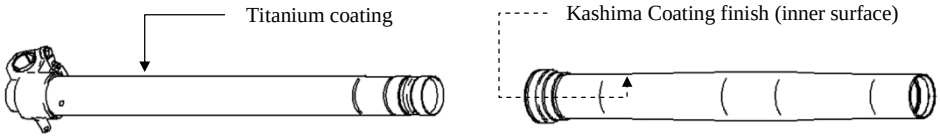
  The front fork offset has been changed in order to improve the feeling of lightness, cornering performance, and front traction performance.

Modification 1	2010 model	2011 model
Offset amount	23.5 mm	22.5 mm



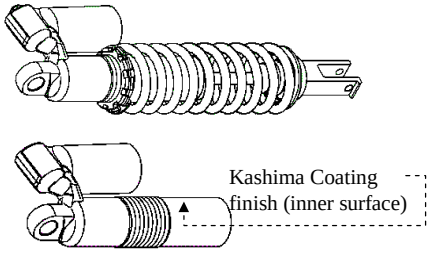
- Coating

  To improve operation characteristics, the operating surfaces of both the inner tube and outer tube were coated.



○ Rear shock absorber

- The valve setting has been changed to improve damping absorption. Also, the inner wall of the cylinder is finished by Kashima Coating.



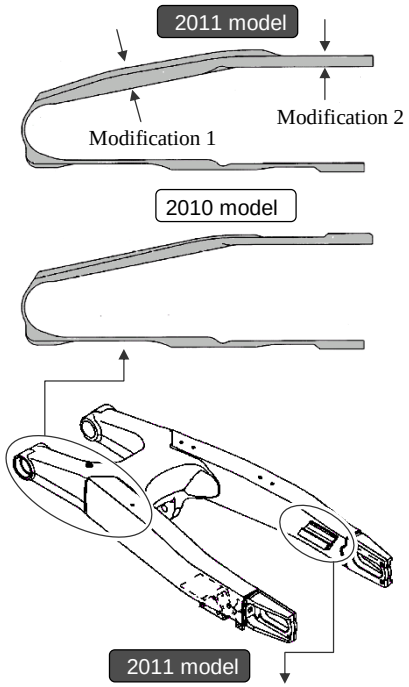
○ Swingarm

- The thickness of the drive chain guide has been changed.

* KX450F parts are commonly used on the 2011 model and later.

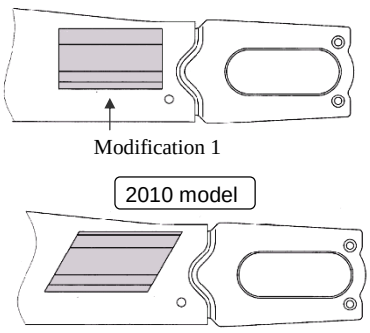
Modification 1	2010 model	2011 model
Thickness	7.2 mm	12.3 mm

Modification 2	2010 model	2011 model
Thickness	6.0 mm	9.0 mm



- The overall length has been changed, and the rear caliper holder mount has been changed (Modification 1).

* KX450F parts are commonly used on the 2011 model and later.

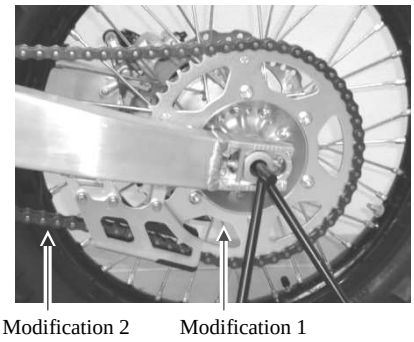


○ Sprocket and drive chain

- Final gear ratio

  The final gear ratio has been changed according to the engine characteristics.

Modification 1	2010 model	2011 model
Reduction gear ratio	13/48	13/50



- Drive chain

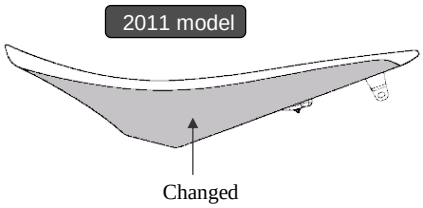
  The number of links has been changed due to the change of the reduction gear ratio.

Modification 2	2010 model	2011 model
Number of links	112 links	114 links

○ Seat

- The left and right rubber seat surfaces have been changed to improve the hold characteristics.

* The KX450F 2011-year model was also modified in a similar way.

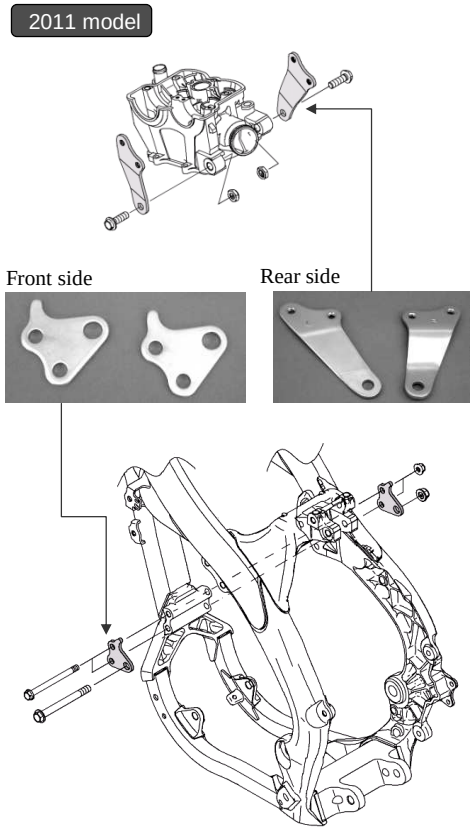


○ Engine brackets

- The material, thickness, and mounting bolts of the front and rear engine brackets have been changed in order to optimize the rigidity balance for better rear traction, front gripping force, and cornering performance.

Front	2010 model	2011 model
Material	Aluminum	Iron
Thickness	6.0 mm	4.5 mm
Mounting bolt	M8 x 102 mm M8 x 104 mm	M8 x 98 mm M8 x 100 mm

Rear	2010 model	2011 model
Material	Aluminum	Iron
Thickness	8.0 mm	4.5 mm
Mounting bolt	M10 x 35 mm	M10 x 32 mm



2. Main Specifications

3. Specification Sheet

Main Specification Change of '11 KX250YBF

Modified engine hanger
- Material (from Al to Fe)
- Thickness (from t8.0 to t4.5)

Modified due to employment of FI system
- Redesigned fuel tank
- Redesigned electronic components (addition of new sensors)

Seat
- Redesigned side leather

Shock absorber
- Changed valve specifications

Front fork
- SFF structure used
- Changed fork offset (from 23.5 to 22.5)

Redesigned swing arm
- Reviewed overall length

Changed the engine bracket material
- Material (from Al to Fe)
- Thickness (from t6.0 to t4.5)

Engine
(1) FI system without battery power employed
(2) Transmission gears
- Improved riding performance achieved by changing 2nd and 4th reduction ratio
(3) Piston
- Performance improved due to reshaped top surface
(4) Camshaft
- Performance improved due to changed cam profile
(5) Change mechanism
- Enhanced assuredness in shifting due to changed ratchet, etc.

Exhaust pipe
- Change in length (employment of SUS taper-type exhaust pipe)

Specification Sheet

（EU/BR）

		'10 KX250XAF	**'11 KX250YBF**
Overall length (mm)		2170	←
Overall width (mm)		820	←
Overall height (mm)		1270	←
Wheelbase (mm)		1470	**1475**
Road clearance (mm)		340	**330**
Seat height (mm)		955	**945**
Caster angle (degrees)		27.7	**28.2**
Trail (mm)		122.3	**120.2**
Engine type		Single-cylinder, 4-stroke liquid-cooled, DOHC 4-valve engine	←
Displacement (cm^3)		249	←
Bore and stroke (mm)		77×53.6	←
Compression ratio		13.2	←
Starting system		Primary kick	←
Ignition system		Digital AC-CDI system	**Digital DC-CDI system**
Lubrication system		Semi dry sump	←
Carburetor		Keihin's FCR37	**-**
Throttle body		-	**Keihin's 43-mm dia**
Transmission type		Constant mesh, 5-speed return	←
Clutch type		Wet multi disc	←
Gear ratios	1st	2.142	←
	2nd	1.769	**1.75**
	3rd	1.444	←
	4th	1.200	**1.235**
	5th	1.045	←
	6th	—	←
Primary reduction ratio		3.350(67/20)	←
Final reduction ratio		3.692(48/13)	**3.769(49/13)**
Frame type		Semi-double cradle, aluminum	←
Suspension	F	Telescopic fork	←
		(Showa's inverted inner tube, 47-mm dia)	←
	R	Swingarm	←
		(New unified traction suspension)	←
Wheel travel	F	315	←
	R	310	←
Tire size	F	80/100-21 51M	←
	R	100/90-19 57M	←
Brake type	F	Single disc, 250-mm dia	←
	R	Single disc, 240-mm dia	←
Fuel capacity (liters)		8.0	**7.2**

4. Detailed Specifications (Engine)

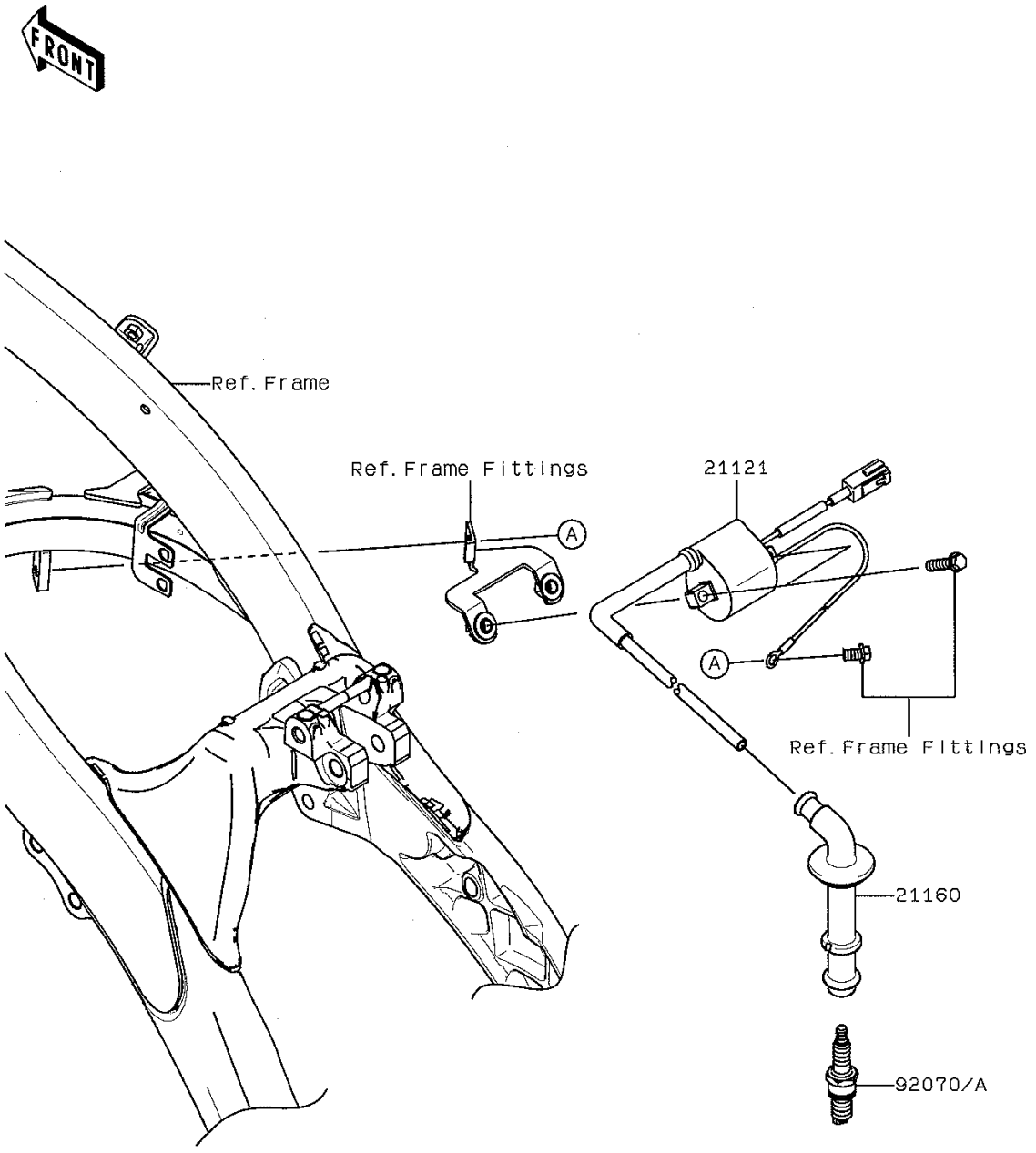
Ignition

Modifications from '10 KX250XAF to '11 KX250YBF

Engine KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
COIL-IGNITION	21121-0021	21121-0058	Changed from the plughole type to the external type.	○			×
CAP-ASSY-PLUG		21160-0009	Changed due to redesigned ignition coil.	○			×
PLUG-SPARK	92070-0019	92070-0020	CR8E→CPR8E (projecting electrode type spark plug)	○			×



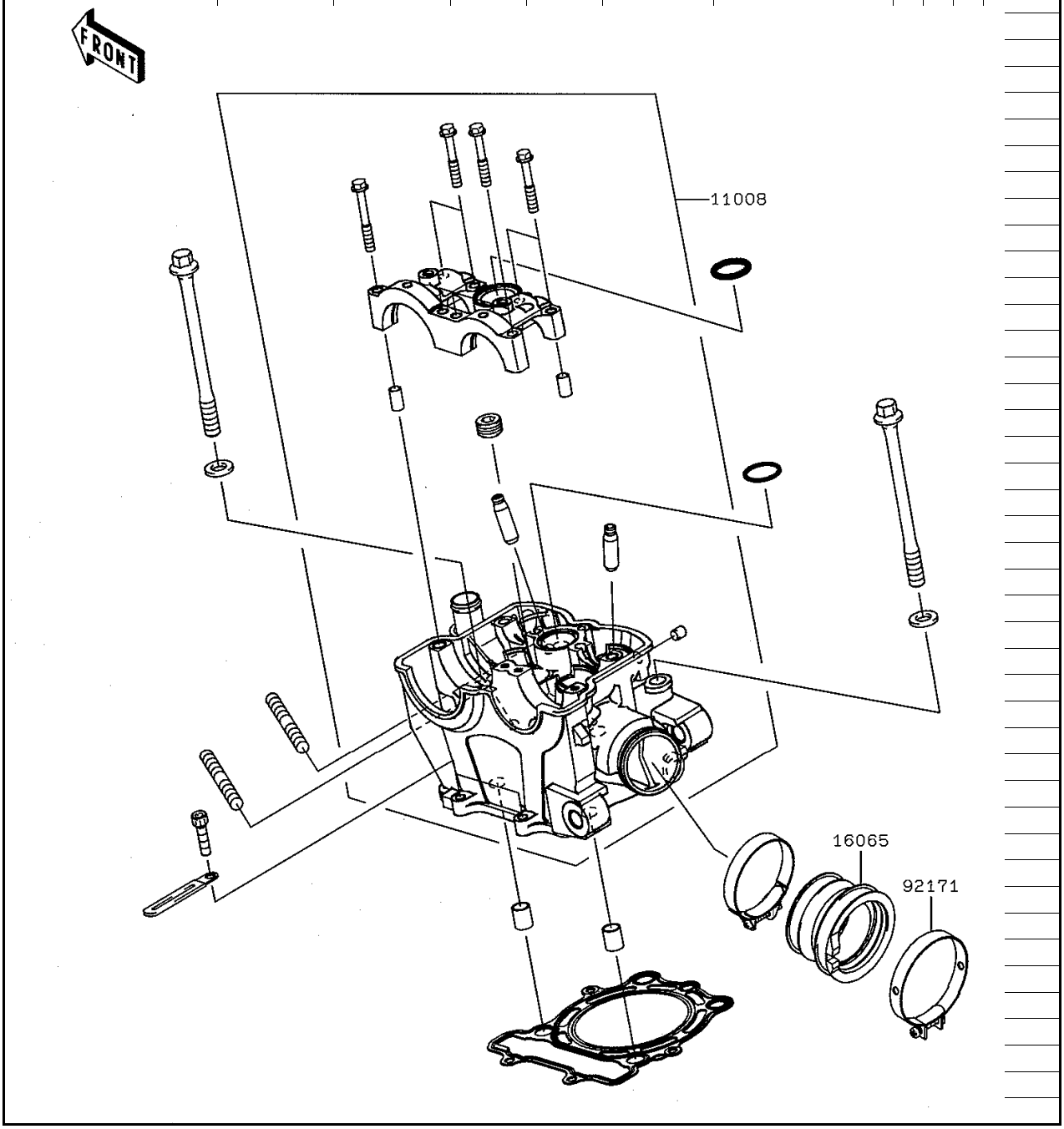
Head, cylinder

Modifications from '10 KX250XAF to '11 KX250YBF

Engine KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
HEAD-COMP-CYLINDER	11008-0191	11008-0218	The water jacket has been partly reshaped to support installation of water sensor.	○	○		×
HOLDER-CARBURETOR	16065-0056	16065-0074	Redesigned due to modification from cab to throttle body.	○			×
CLAMP	92171-0925	92171-0857	Redesigned due to modification from cab to throttle body.	○			×



Head cover, cylinder

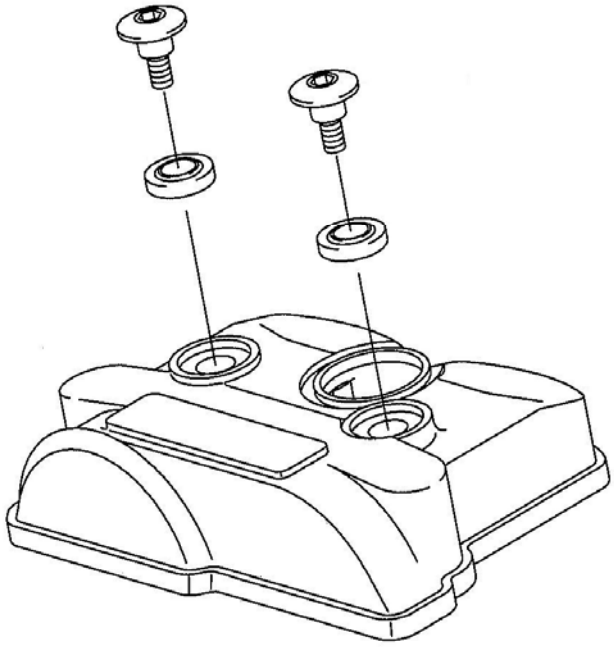
Modifications from '10 KX250XAF to '11 KX250YBF

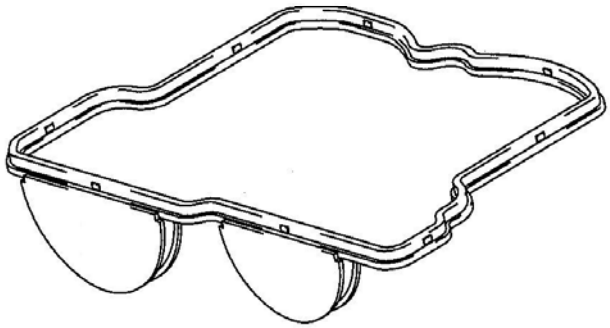
Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change

Not modified.





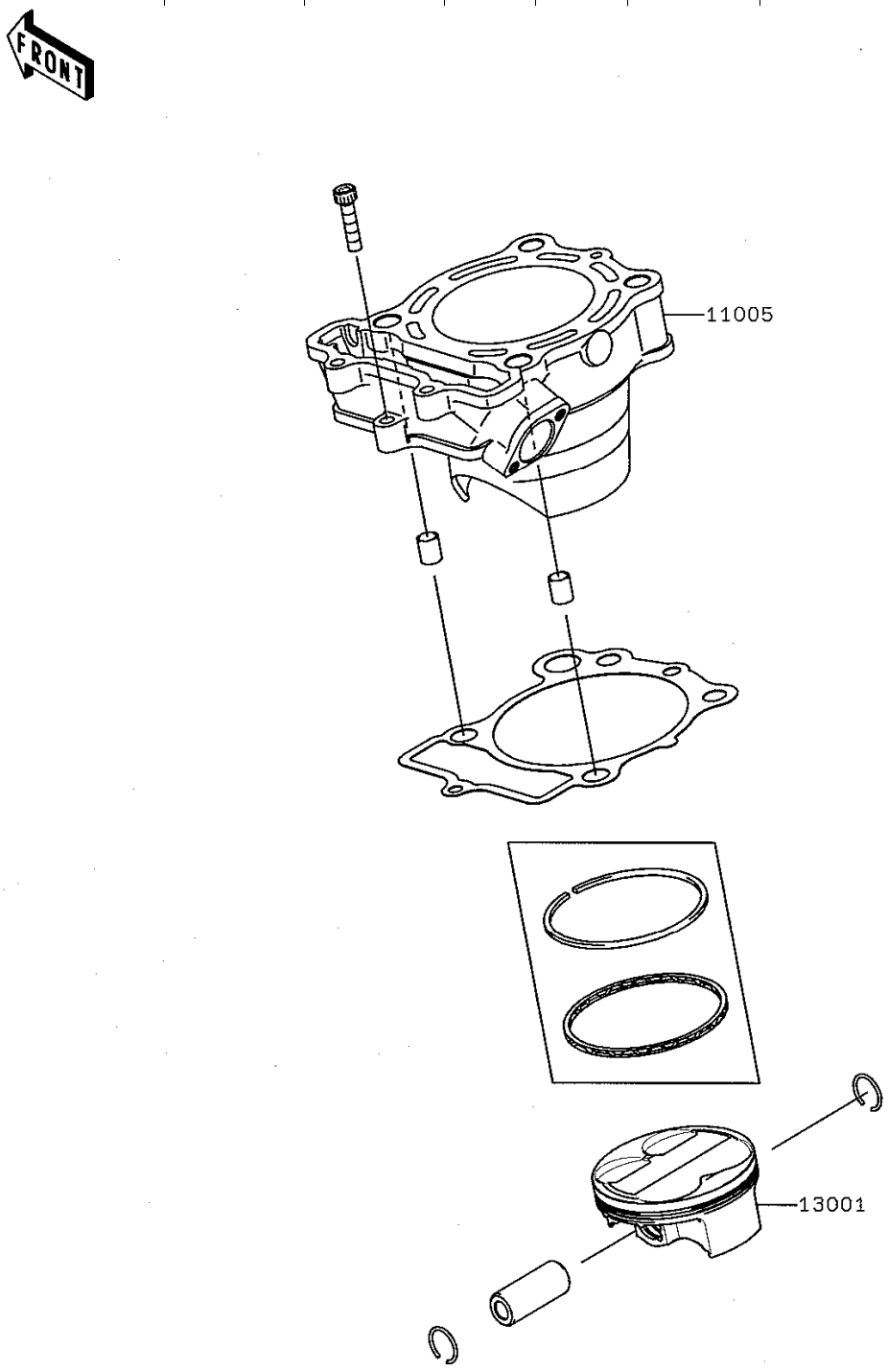
Piston cylinder

Modifications from '10 KX250XAF to '11 KX250YBF

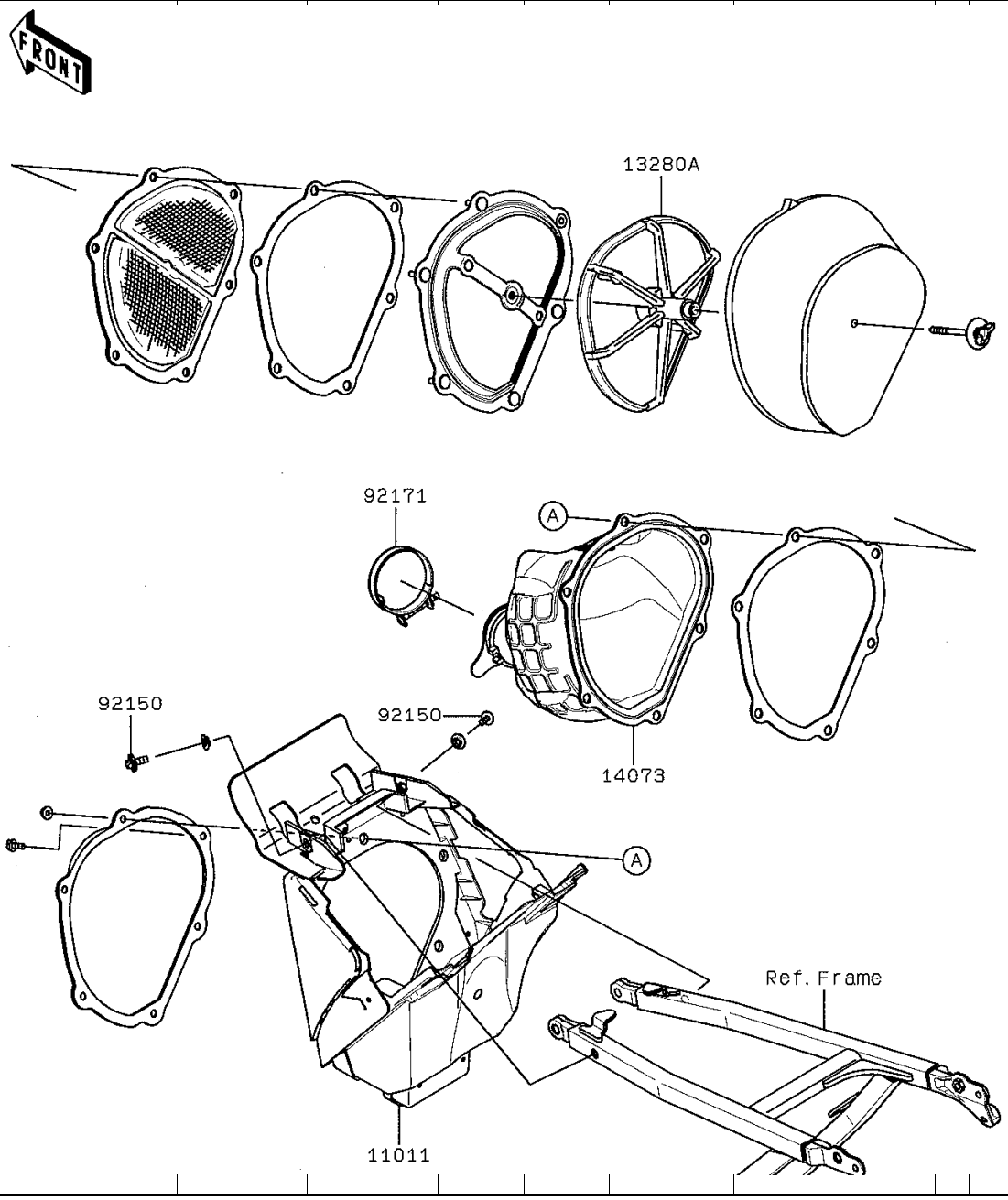
Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
CYLINDER-ENGINE	11005-0127	11005-0138	The height has been changed (from 36.5 to 36.3).	○			○ S
PISTON-ENGINE	13001-0115	13001-0125	Top surface has been reshaped and drilled hole on the box has been disused.	○		○	○ S



Air cleaner							
Modifications from '10 KX250XAF to '11 KX250YBF			○ S: '11→'10 interchangeable as a set ○: '11→'10 interchangeable 3: Others 2: Reliability improvement 1: Performance improvement				
Engine	KX250Y						
Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
CASE-AIR FILTER	11011-0157	11011-0156	The guard has been reshaped (to support intake air temperature sensor).	○			×
HOLDER	13280-0108	13280-0383	The holder mount has been reshaped.		○		○
DUCT	14073-0270	14073-0291	The volumetric capacity has been increased to support installation of intake air temperature sensor.	○		○	×
BOLT	92153-0863	92150-1506	The surface treatment has been changed.			○	○
CLAMP	92171-0651	92171-1990	Redesigned due to modification from cab to throttle body.	○			×



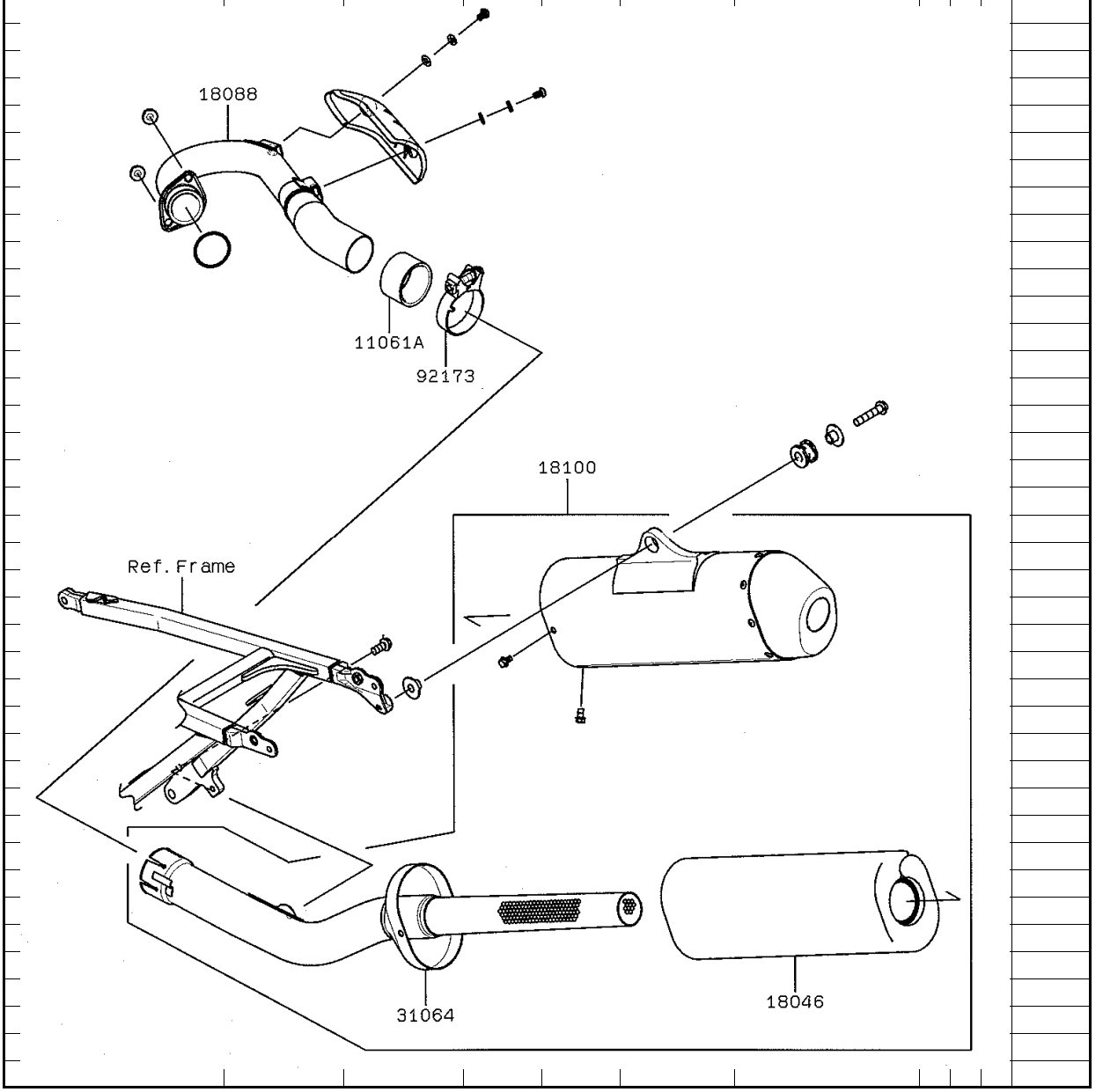
Muffler

Modifications from '10 KX250XAF to '11 KX250YBF

Engine KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

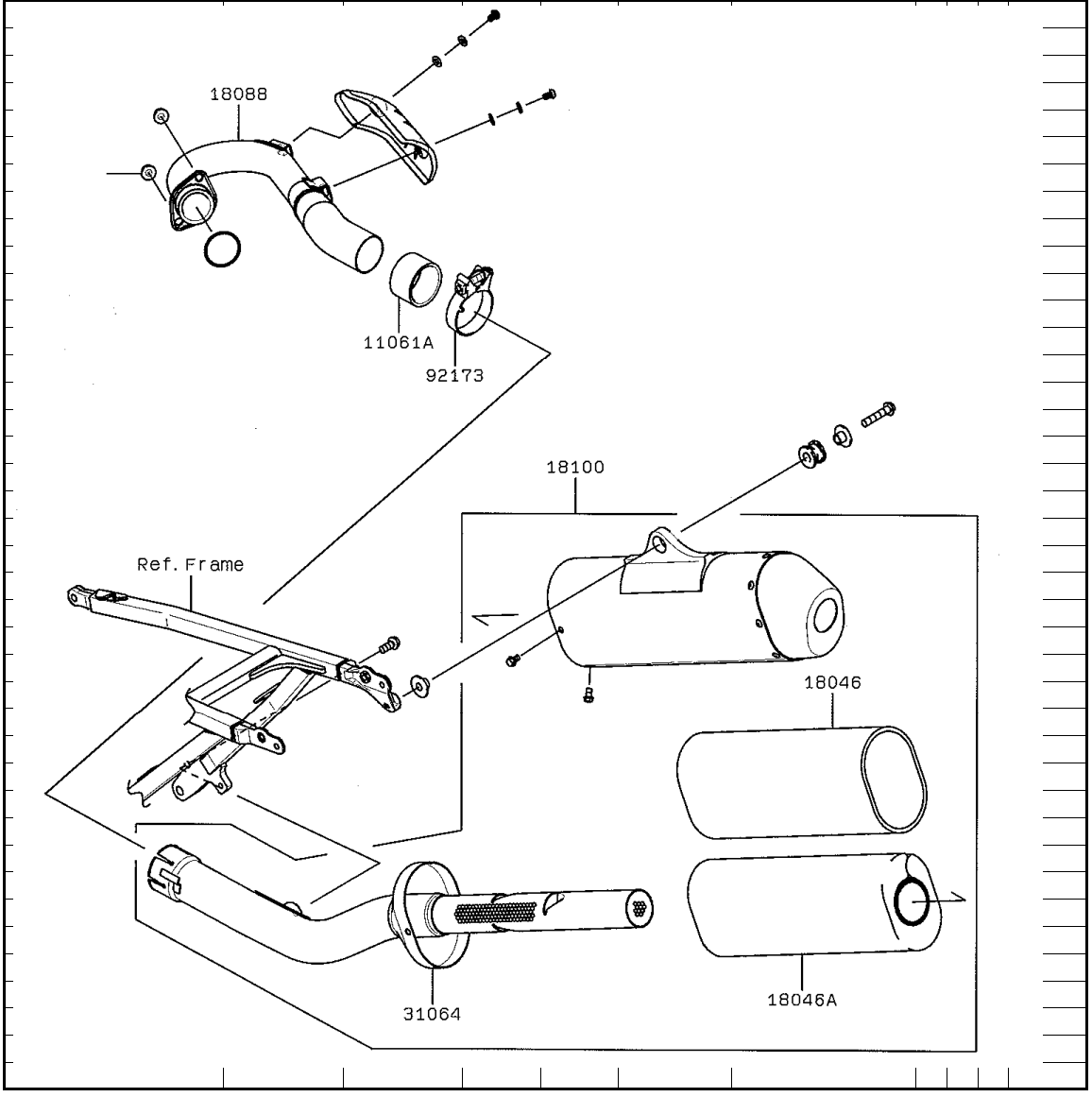
Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
GASKET	11061-0354	11061-0434	The part number has been changed for better control.			○	○
WOOL	18046-0126	18046-0177	Changed due to modifications made to exhaust noise regulations (US and CN specifications).			○	×
PIPE-EXHAUST	18088-0524	18088-0565	The length has been changed.		○		○
BODY-ASSY-MUFFLER	18100-0111	18100-0110	Changed due to modifications made to exhaust noise regulations (US and CN specifications).			○	×
PIPE-COMP	31064-0185	31064-0211	Changed due to modifications made to exhaust noise regulations (US and CN specifications).			○	×
CLAMP	92173-0174	92173-0275	The surface treatment has been changed.			○	○



Muffler							
Modifications from '10 KX250XAF to '11 KX250YBF							
Engine	KX250Y						

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
GASKET	11061-0354	11061-0434	The part number has been changed for better control.			○	○
WOOL	18046-0177	18046-0231	Changed due to modifications made to exhaust noise regulations (JPN, AU, EU and BR specifications).			○	×
WOOL		18046-0224	The heat insulating wool for the outside has been added (JPN, AU, EU and BR specifications).			○	×
PIPE-EXHAUST	18088-0524	18088-0565	The length has been changed.		○		○
BODY-ASSY-MUFFLER	18100-0110	18100-0114	Changed due to modifications made to exhaust noise regulations (JPN, AU, EU and BR specifications).			○	×
PIPE-COMP	31064-0195	31064-0195	Changed due to modifications made to exhaust noise regulations (JPN, AU, EU and BR specifications).			○	×
CLAMP	92173-0174	92173-0275	The surface treatment has been changed.			○	○



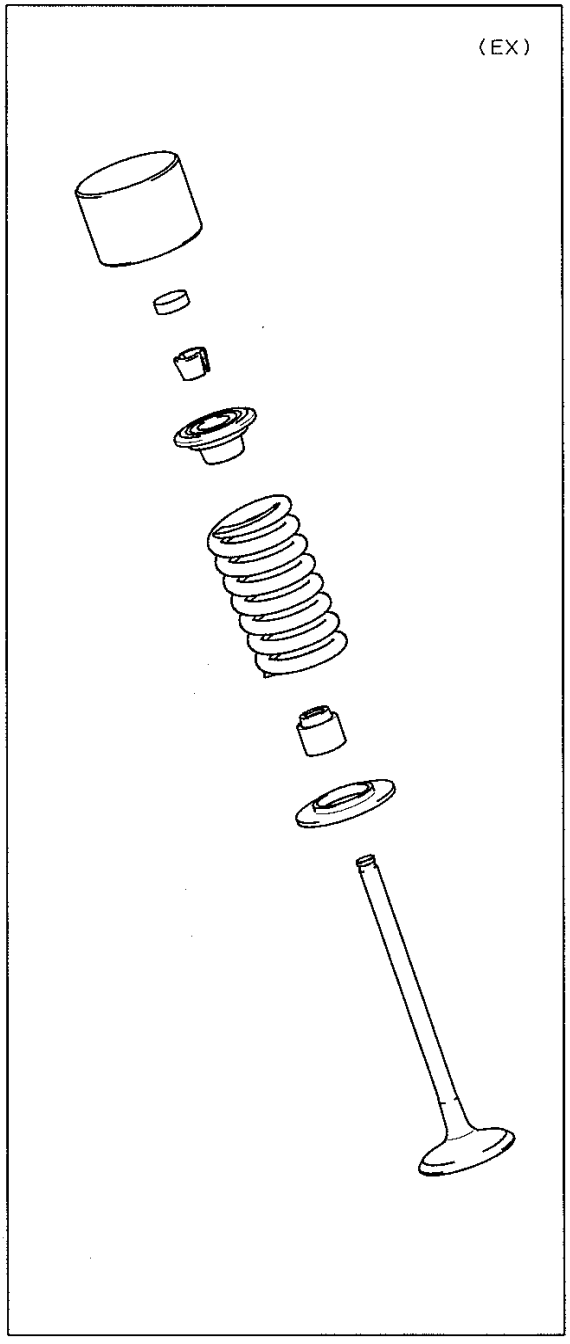
Valve

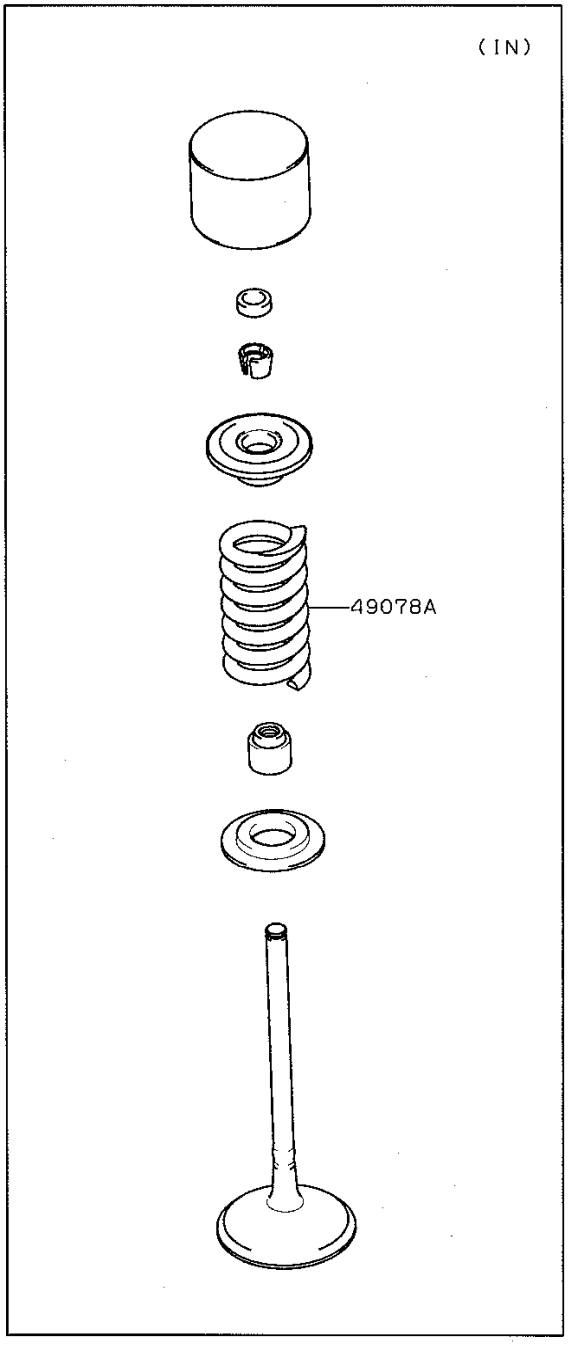
Modifications from '10 KX250XAF to '11 KX250YBF

Engine KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
SPRING-VALVE	49078-0056	49078-0080	The spring constant has been increased.			○	○ S





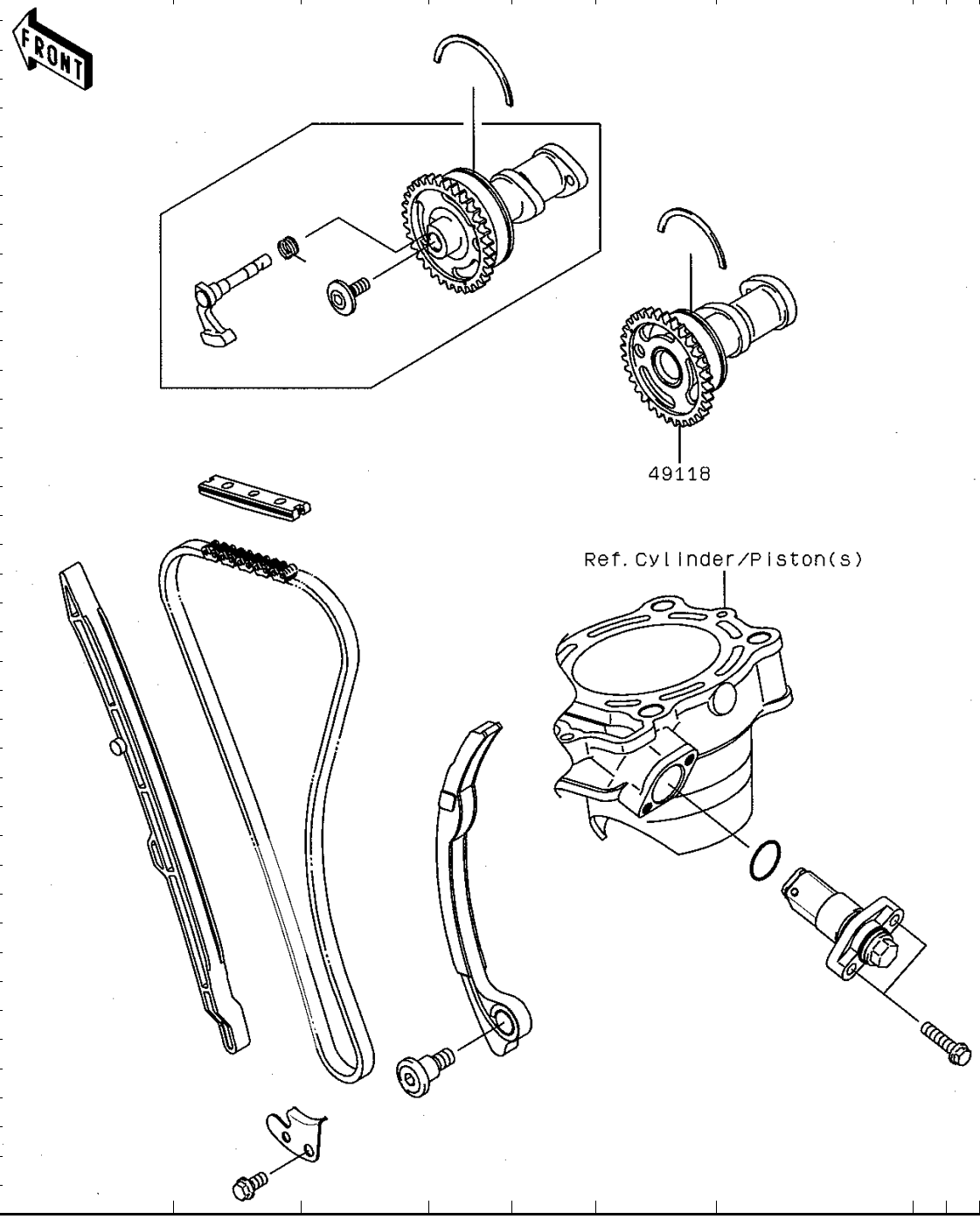
Camshaft tensioner

Modifications from '10 KX250XAF to '11 KX250YBF

Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
CAMSHAFT-COMP, INTAKE	49118-0066	49118-0164	The cam profile and the valve timing have been changed.	○			○ S



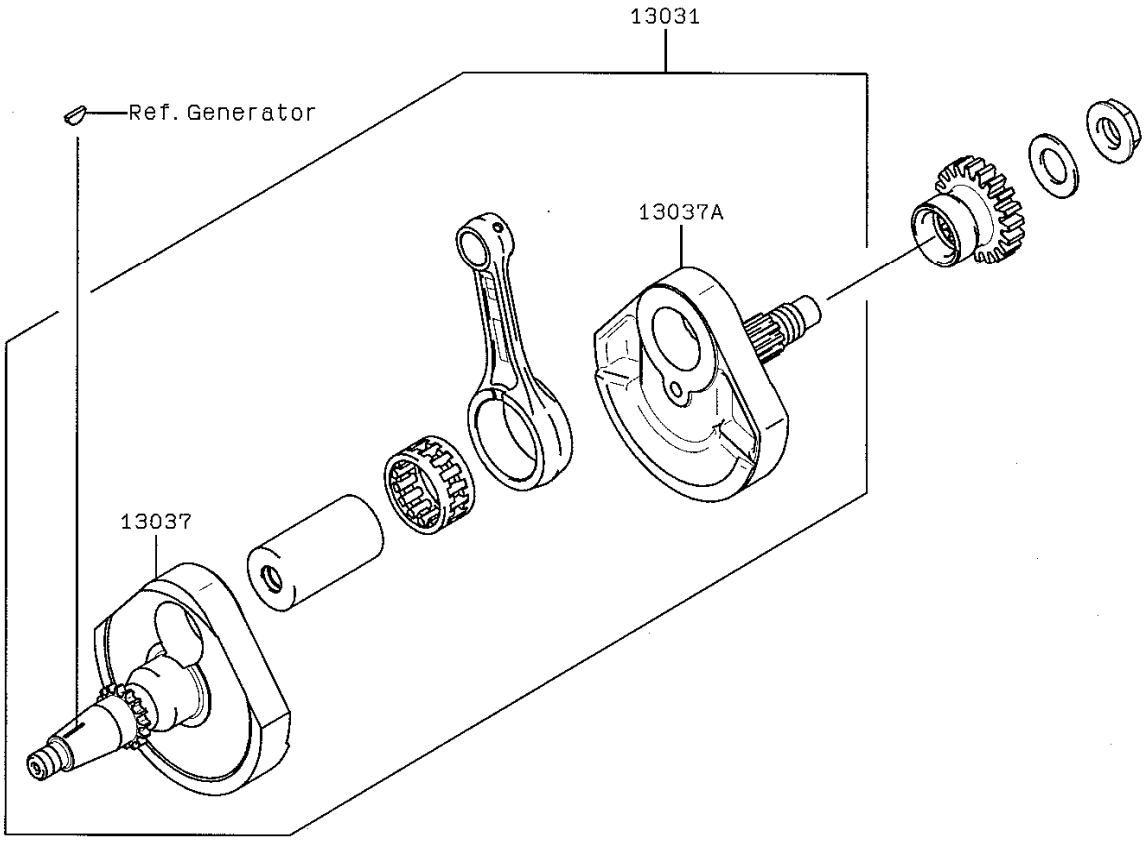
Crankshaft

Modifications from '10 KX250XAF to '11 KX250YBF

Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
CRANKSHAFT-COMP	13031-0136	13031-0143	The inertia moment has been changed.	○			×
CRANKSHAFT, LH	13037-0164	13037-0170	The inertia moment has been changed.	○			×
CRANKSHAFT, RH	13037-0165	13037-0171	The inertia moment has been changed.	○			×



Clutch

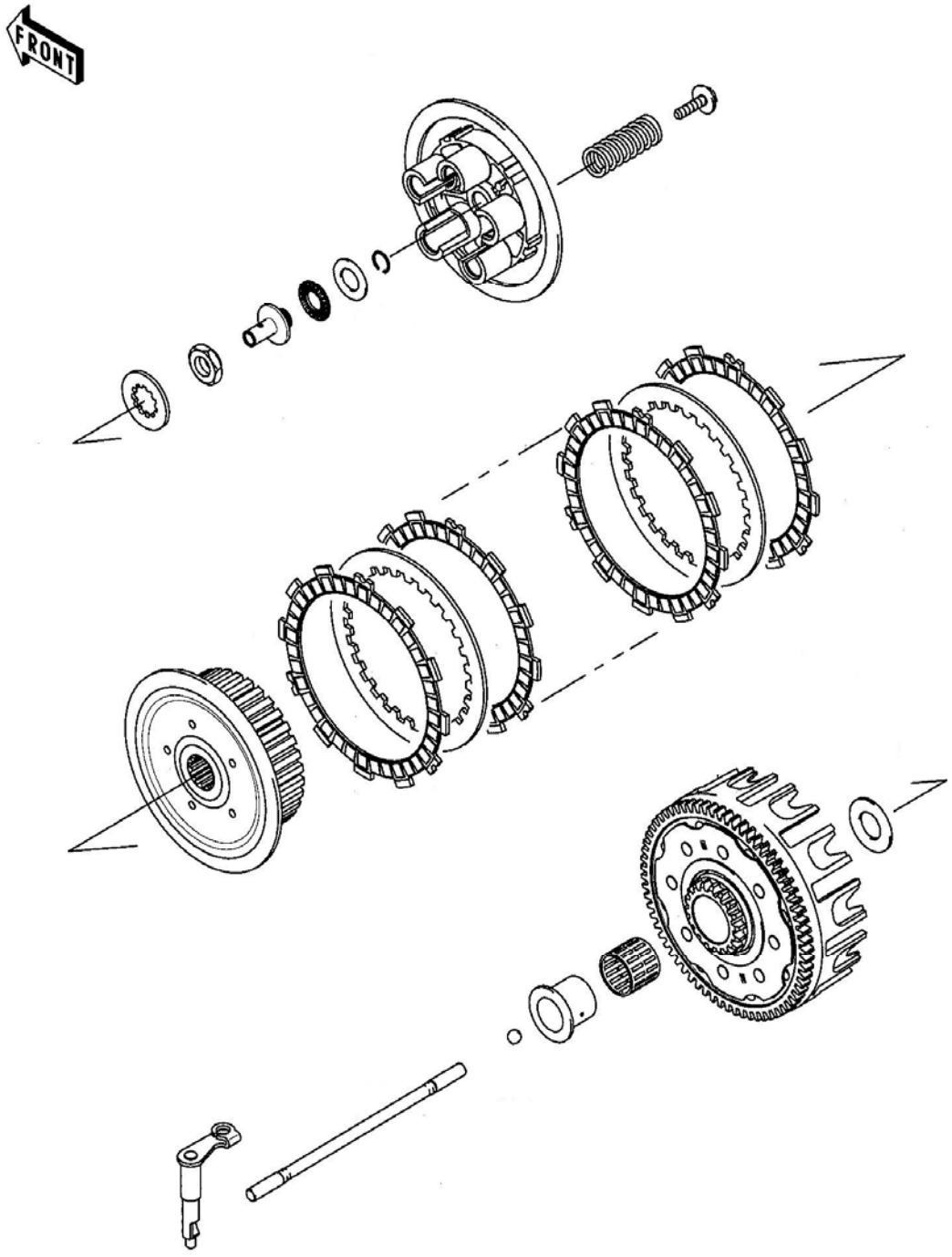
Modifications from '10 KX250XAF to '11 KX250YBF

Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change

Not modified.



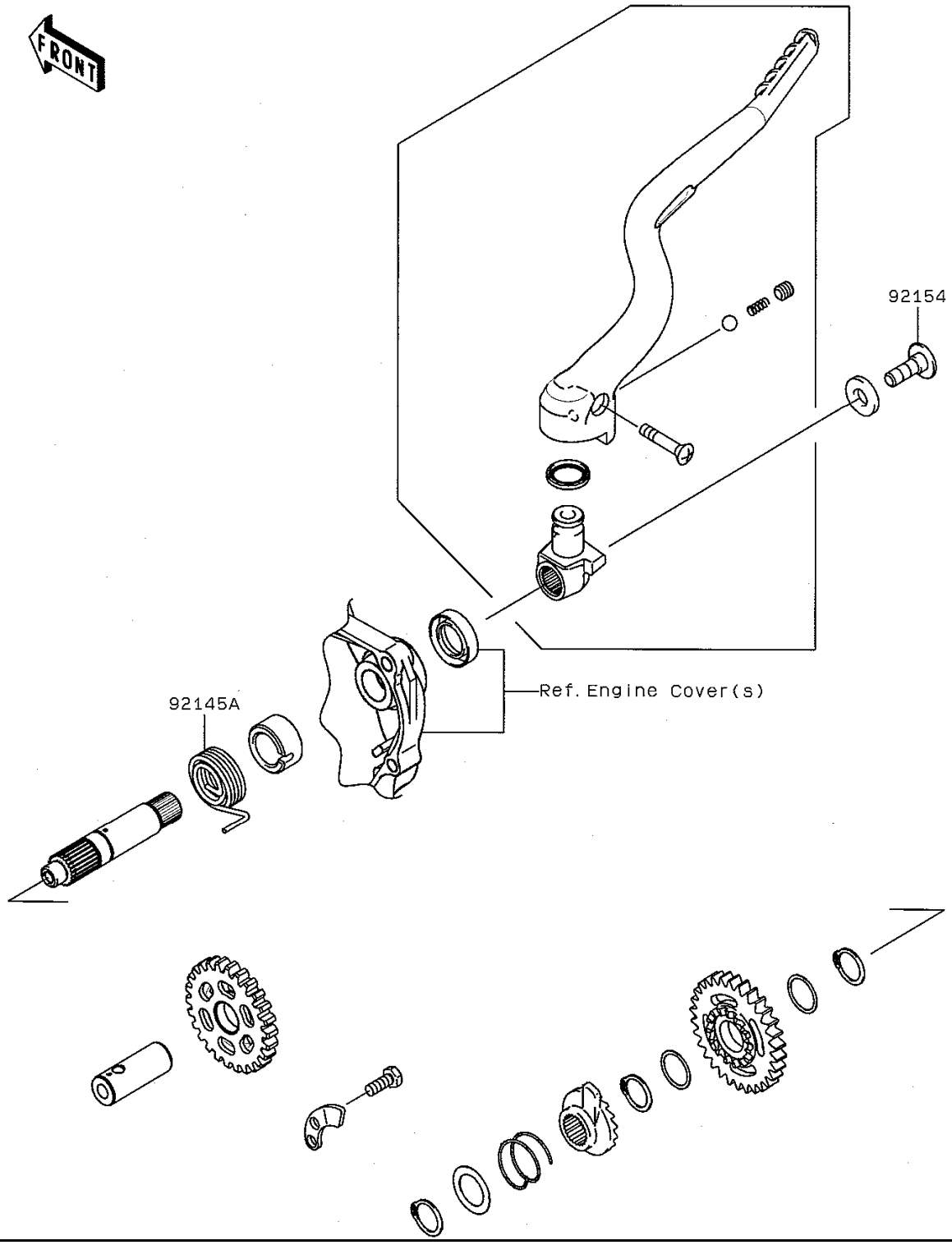
Starter, kick

Modifications from '10 KX250XAF to '11 KX250YBF

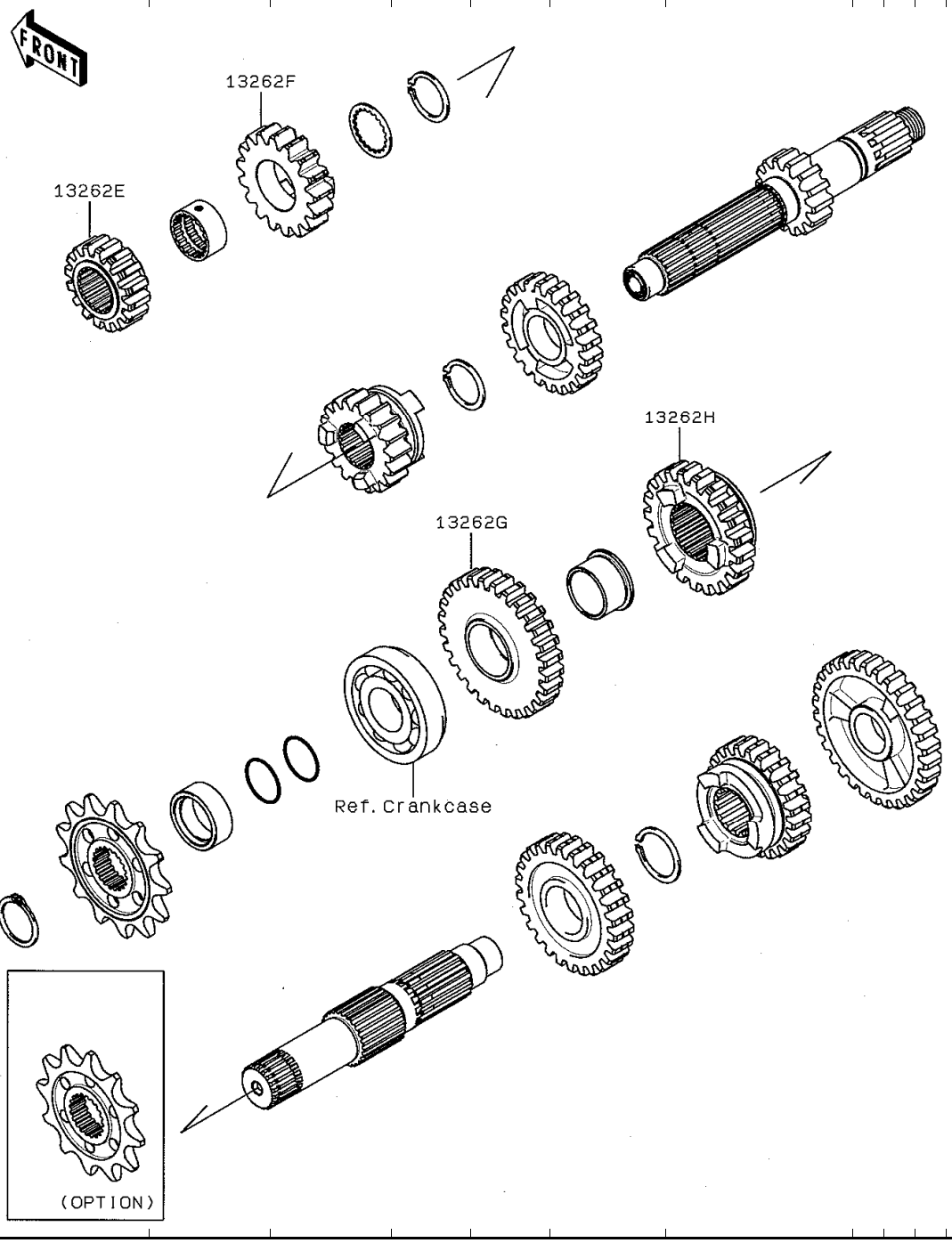
Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
SPRING	92145-0051	92145-0811	The insertion margin to the shaft has been changed.			○	○
BOLT	92154-0181	92154-0521	The surface treatment has been changed.			○	○



Gear, transmission							
Modifications from '10 KX250XAF to '11 KX250YBF			○ S: '11→'10 interchangeable as a set ○: '11→'10 interchangeable 3: Others 2: Reliability improvement 1: Performance improvement				
Engine	KX250Y						
Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
GEAR, INPUT 2ND, IN	13262-0775	13262-0839	The number of gear teeth has been changed (from 13T to 16T).	○			○ S
GEAR, INPUT 2ND, OUT	13262-0673	13262-0841	The number of gear teeth has been changed (from 23T to 28T).	○			○ S
GEAR, INPUT 4TH, IN	13262-0777	13262-0840	The number of gear teeth has been changed (from 20T to 17T).	○			○ S
GEAR, INPUT 4TH, OUT	13262-0675	13262-0842	The number of gear teeth has been changed (from 24T to 21T).	○			○ S



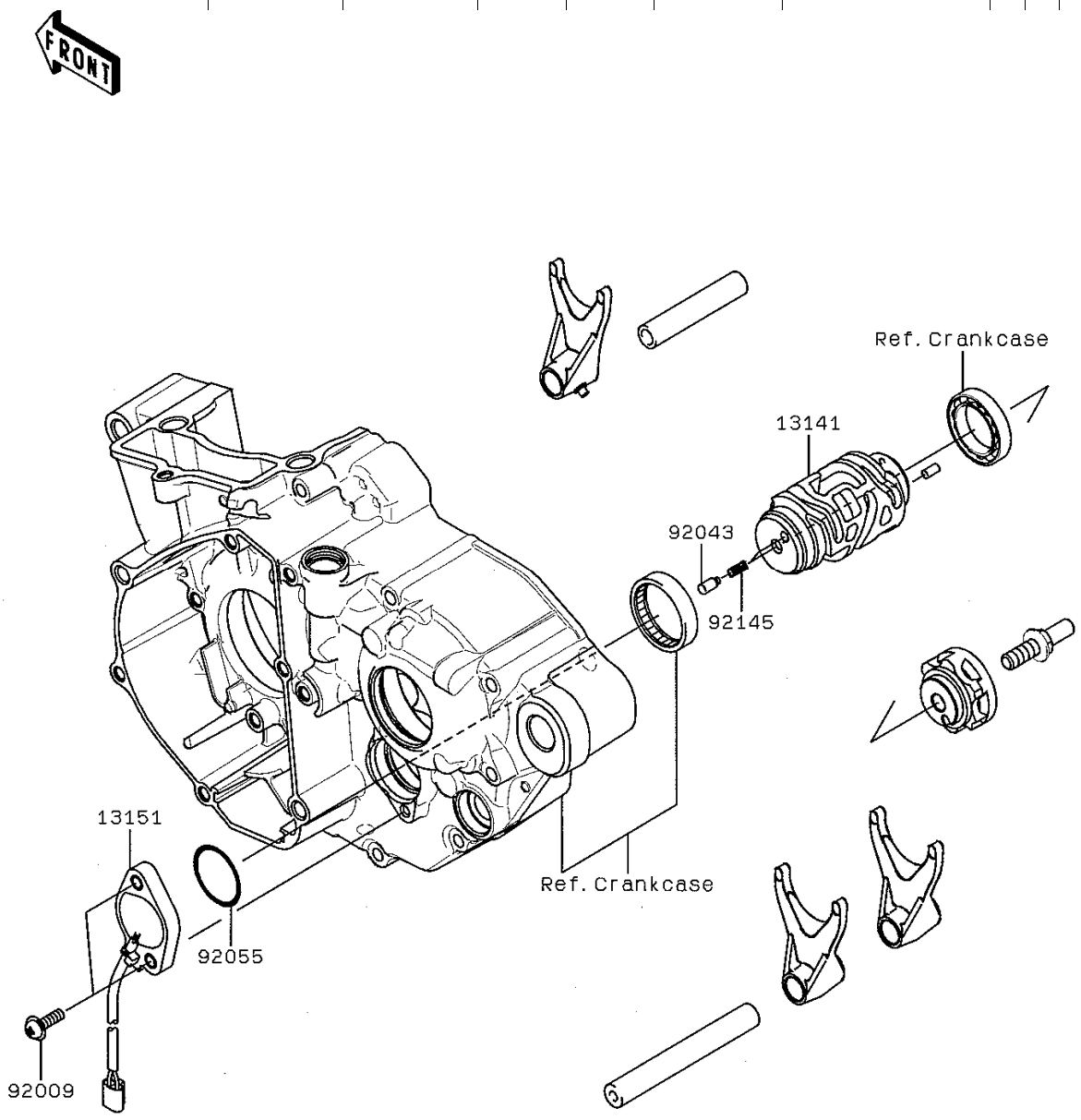
Gear change, drum and shift fork

Modifications from '10 KX250XAF to '11 KX250YBF

Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
DRUM-CHANGE	13141-0052	13141-0054	Gear speed detection is supported.	○			×
SWITCH-COMP	13151-0006	13151-0052	Changed from the neutral detection to the gear speed detection.	○			×
SCREW		92009-1571	Gear speed detection is supported.	○			×
PIN		92043-1654	Gear speed detection is supported.	○			×
RING-O		92055-091	Gear speed detection is supported.	○			×
GASKET	92065-058		Gear speed detection is supported.	○			×
SPRING		92145-1414	Gear speed detection is supported.	○			×



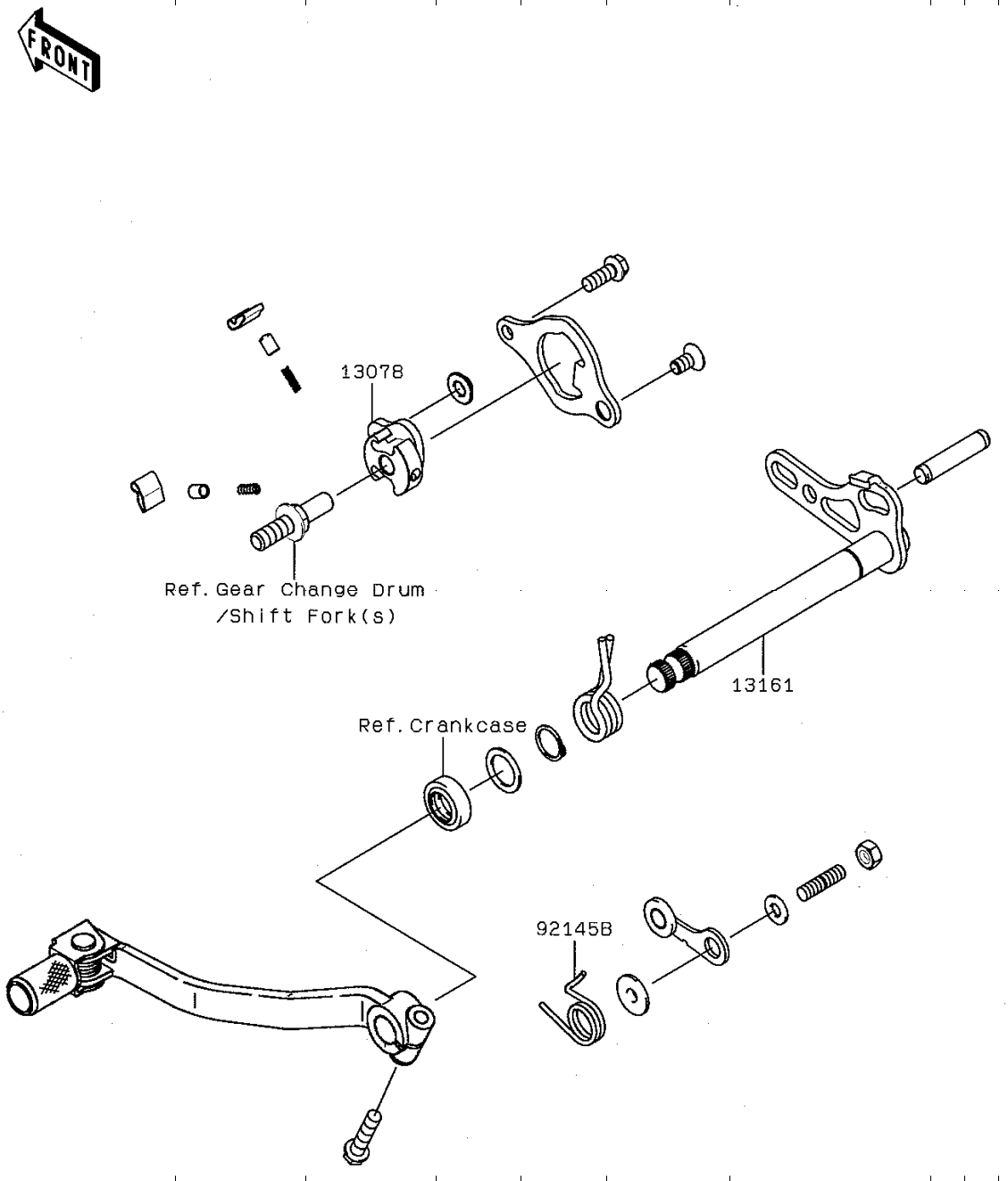
Gear change, mechanism

Modifications from '10 KX250XAF to '11 KX250YBF

Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
RATCHET	13078-0019	13078-0029	The lever length has been changed.		○		○ S
LEVER-COMP-CHANGE SHAFT	13161-0067	13161-0077	Modified to increase rotation angle in conjunction with ratchet.		○		○ S
SPRING	92145-0609	92145-0775	The set load has been reduced.	○			○



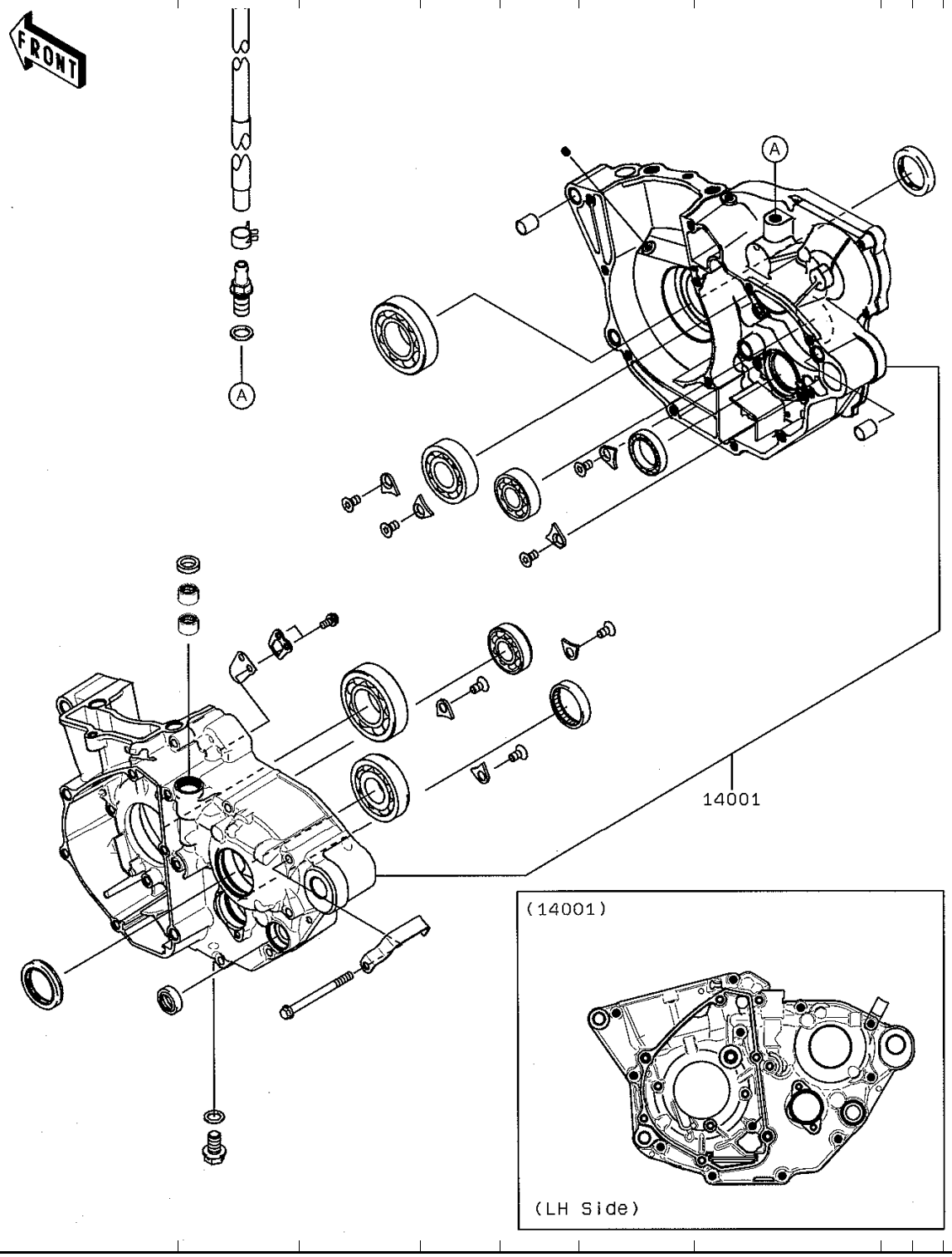
Crankcase

Modifications from '10 KX250XAF to '11 KX250YBF

Engine KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

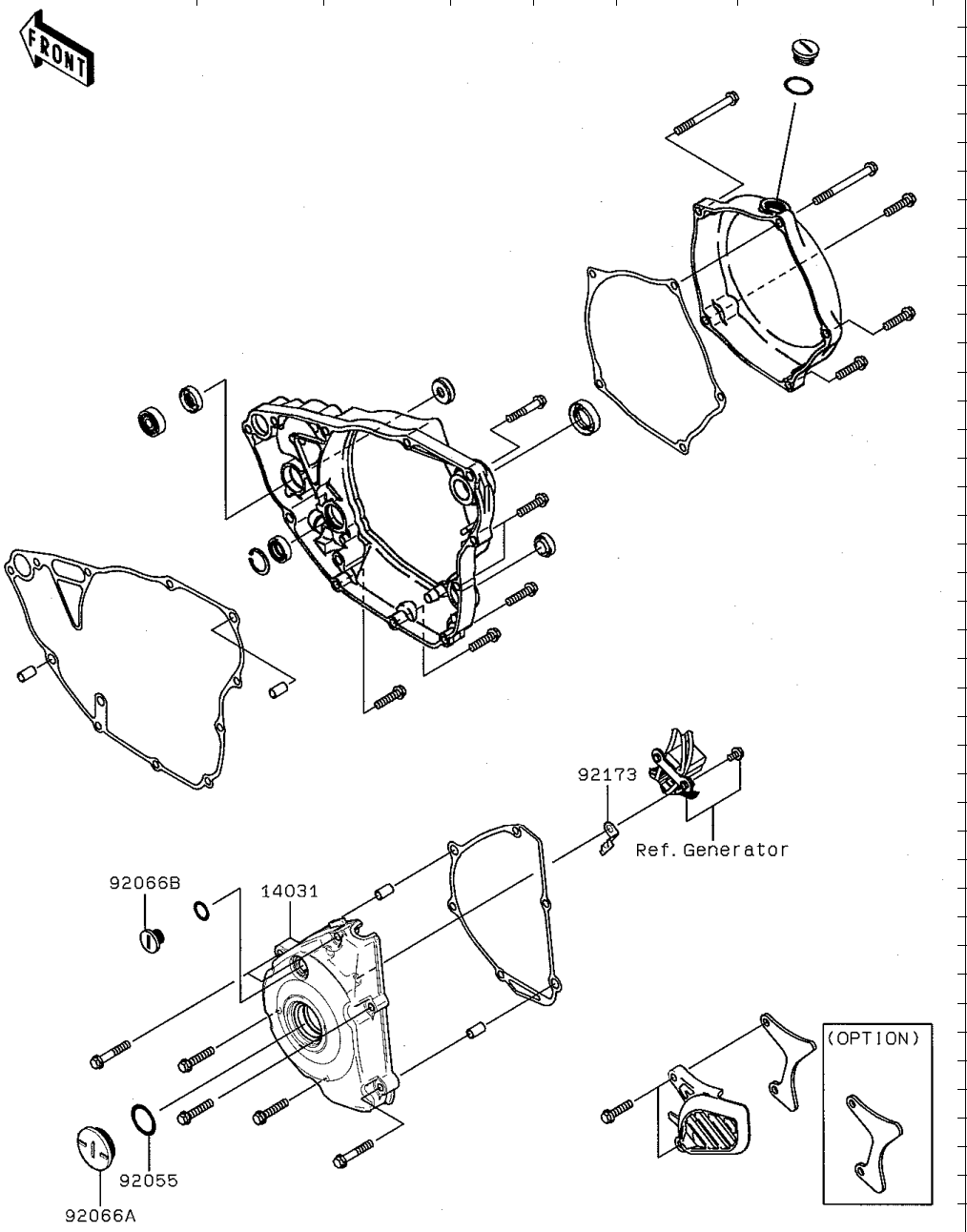
Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
SET-CRANKCASE	14001-0164	14001-0155	The switch-comp mount in the left case has been changed.	○			×



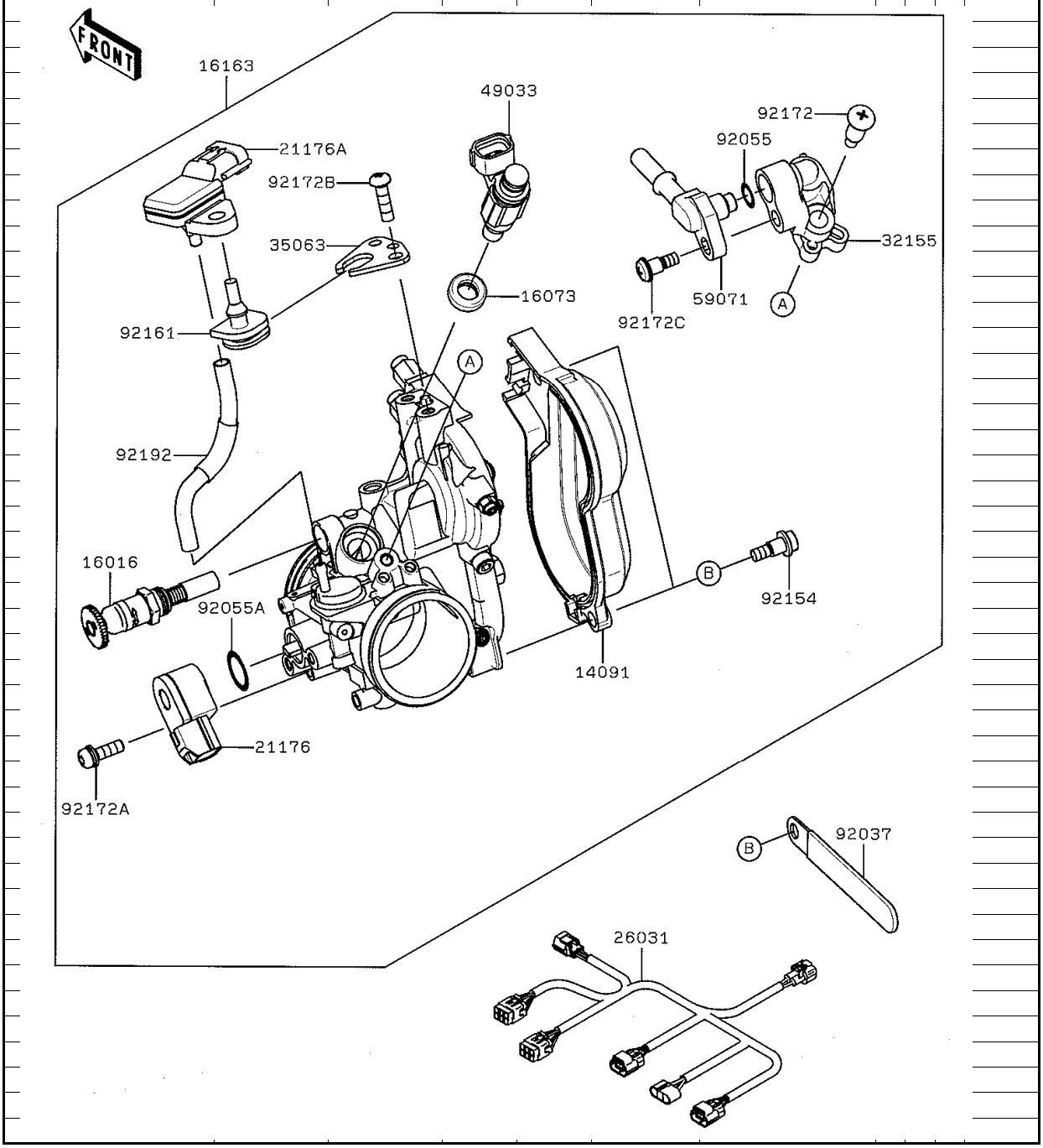
Cover, engine							
Modifications from '10 KX250XAF to '11 KX250YBF							
Engine	KX250Y						

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
COVER-GENERATOR	14031-0098	14031-0115	Due to redesigned generator.	○			×
RING-O	670B2022	92055-091	The diameter has been increased due to a redesigned rotor mounting nut.	○			×
PLUG	92066-0039	92066-0153	The groove depth has been changed.	○			○
PLUG	92066-0150	92066-0133	The diameter has been increased due to a redesigned rotor mounting nut.	○			×
CLAMP	92171-0195	92173-0058	Due to the redesigned generator harness routing.			○	×



Throttle							
Modifications from '10 KX250XAF to '11 KX250YBF			○ S: '11→'10 interchangeable as a set ○: '11→'10 interchangeable 3: Others 2: Reliability improvement 1: Performance improvement				
Engine	KX250Y						
Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
THROTTLE-ASSY		16163-0154	A throttle assembly with 43-mm diameter bore has been newly specified due to employment of FI system.	○			×
HARNESS		26031-0782	A new harness has been specified due to employment of FI system.	○			×
CLAMP		92037-1993	For harness	○			×



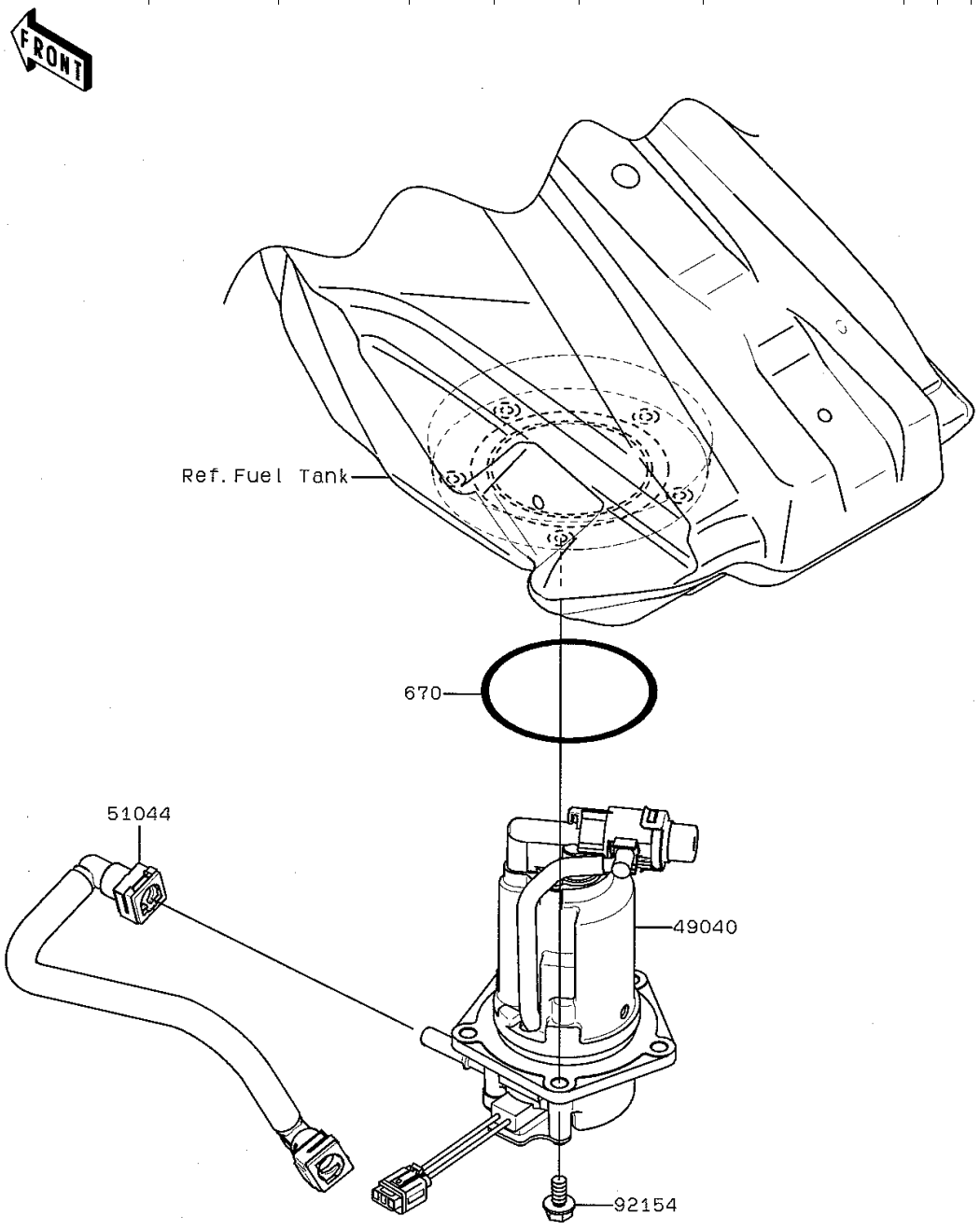
Fuel pump

Modifications from '10 KX250XAF to '11 KX250YBF

Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
PUMP-FUEL		49040-0037	Newly added due to employment of FI system.	○			×
TUBE-ASSY		51044-0081	Newly added due to employment of FI system (JPN, US, CN, AU and EU specifications).	○			×
RING-O		670E5070	Used to mount the fuel pump.	○			×
BOLT		92154-0534	Used to mount the fuel pump.	○			×



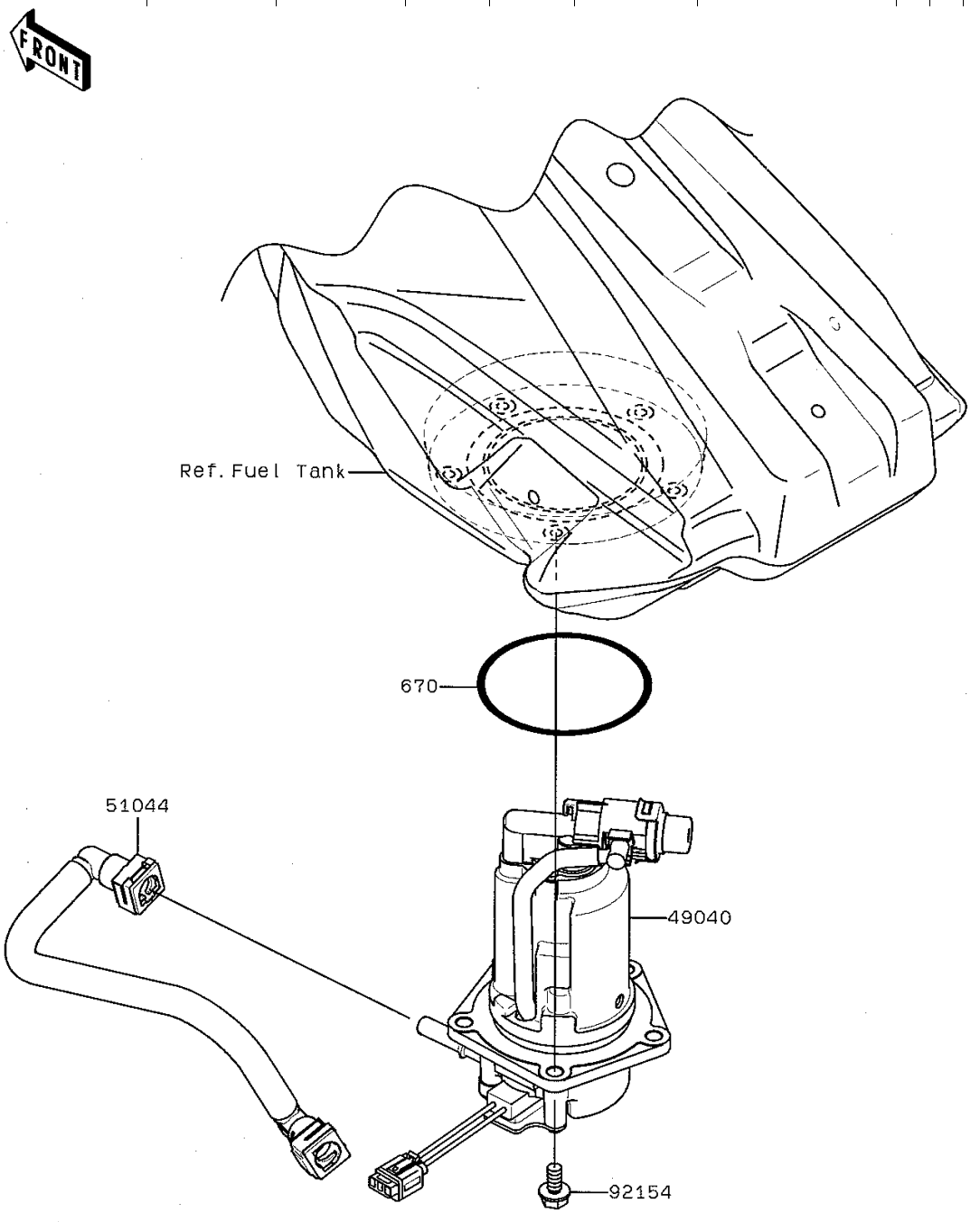
Fuel pump

Modifications from '10 KX250XAF to '11 KX250YBF

Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
PUMP-FUEL		49040-0037	Newly added due to employment of FI system.	○			×
TUBE-ASSY		51044-0098	Newly added due to employment of FI system (BR specifications).	○			×
RING-O		670E5070	Used to mount the fuel pump.	○			×
BOLT		92154-0534	Used to mount the fuel pump.	○			×



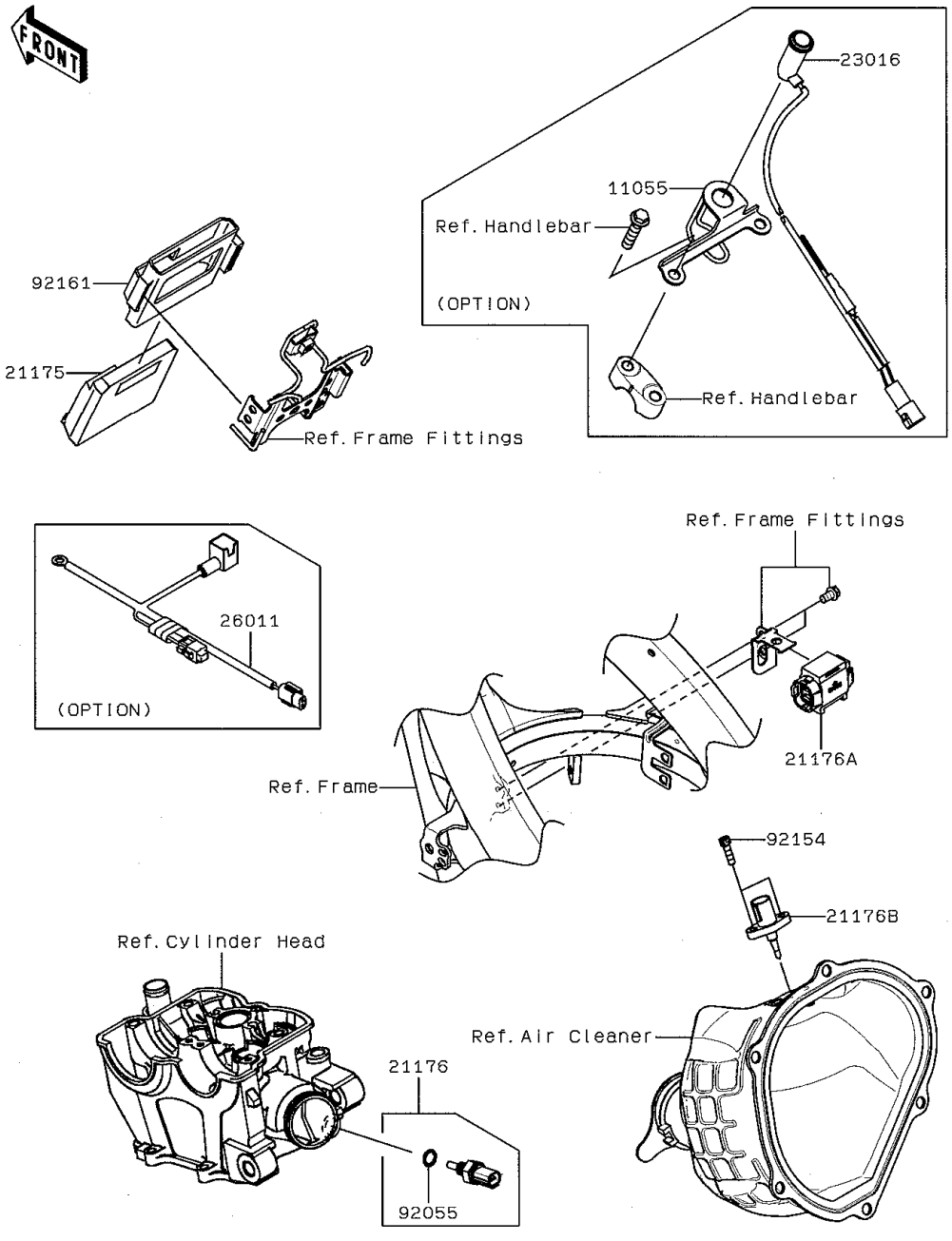
EFI

Modifications from '10 KX250XAF to '11 KX250YBF

Engine KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
CONTROL UNIT-ELECTRONIC		21175-0320	The ECU has been added (US and CN specifications).	○			×
DAMPER		92161-0842	Used to mount the ECU.	○			×
SENSOR		21176-0009	The water temperature sensor has been added.	○			×
SENSOR		21176-0066	The vehicle down sensor has been added.	○			×
SENSOR		21176-0121	The intake air temperature sensor has been added.	○			×
BOLT		92154-0038	Used to mount the intake air temperature sensor.	○			×



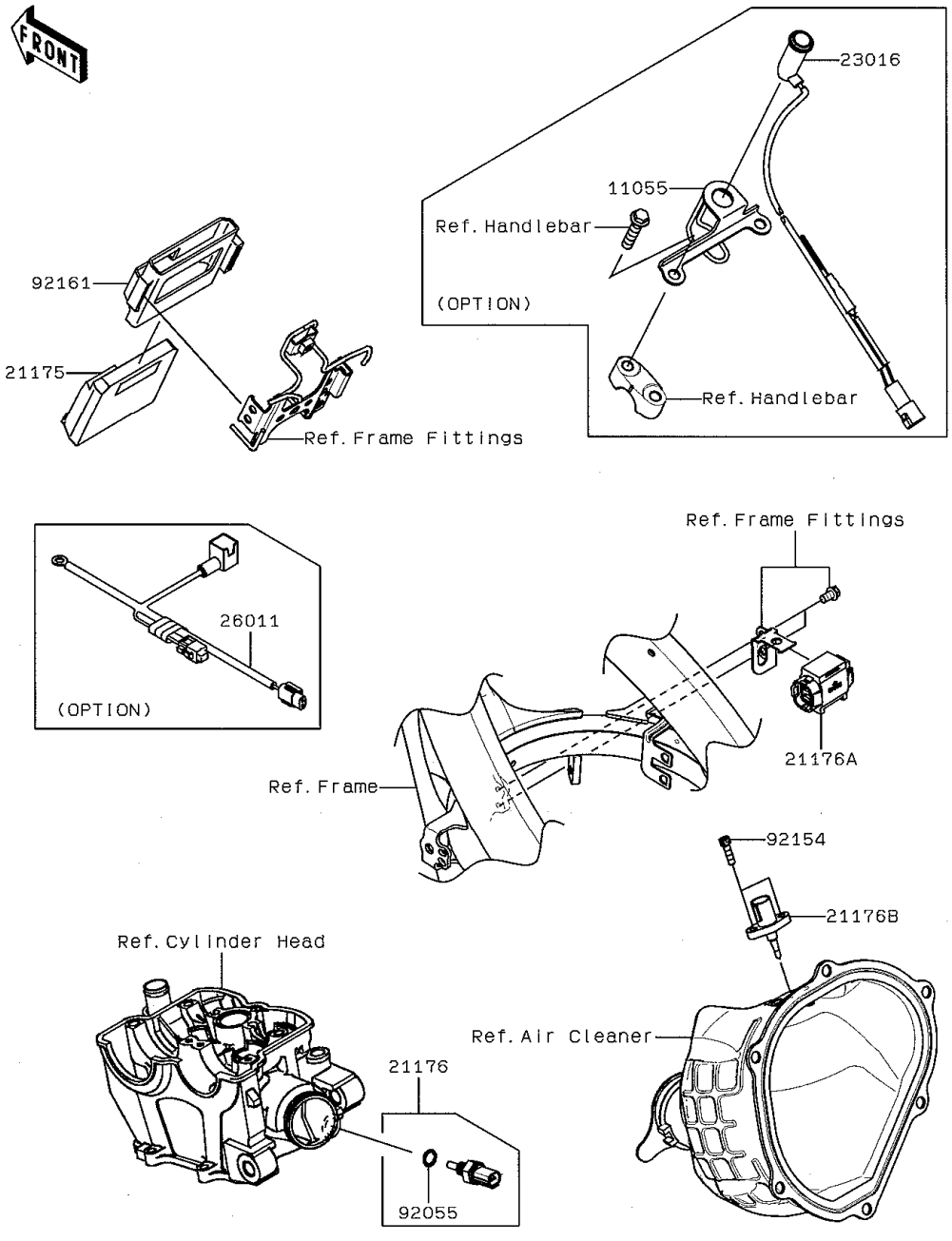
EFI

Modifications from '10 KX250XAF to '11 KX250YBF

Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

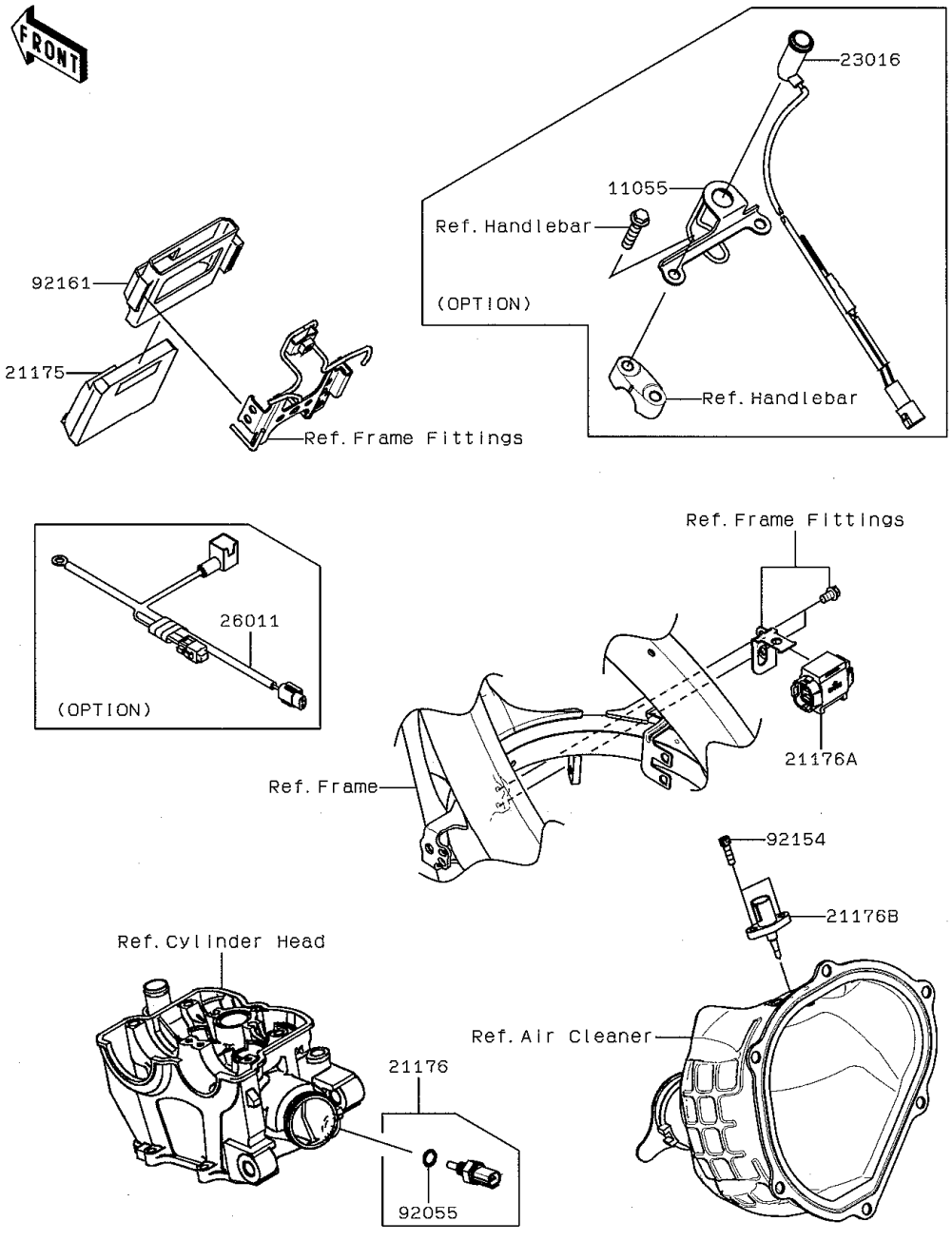
Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
CONTROL UNIT-ELECTRONIC		21175-0322	The ECU has been added (US, EU and AU specifications).	○			×
DAMPER		92161-0842	Used to mount the ECU.	○			×
SENSOR		21176-0009	The water temperature sensor has been added.	○			×
SENSOR		21176-0066	The vehicle down sensor has been added.	○			×
SENSOR		21176-0121	The intake air temperature sensor has been added.	○			×
BOLT		92154-0038	Used to mount the intake air temperature sensor.	○			×



EFI							
Modifications from '10 KX250XAF to '11 KX250YBF							
Engine	KX250Y						

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
CONTROL UNIT-ELECTRONIC		21175-0349	The ECU has been added (BR specifications).	○			×
DAMPER		92161-0842	Used to mount the ECU.	○			×
SENSOR		21176-0009	The water temperature sensor has been added.	○			×
SENSOR		21176-0066	The vehicle down sensor has been added.	○			×
SENSOR		21176-0121	The intake air temperature sensor has been added.	○			×
BOLT		92154-0038	Used to mount the intake air temperature sensor.	○			×



Oil pump

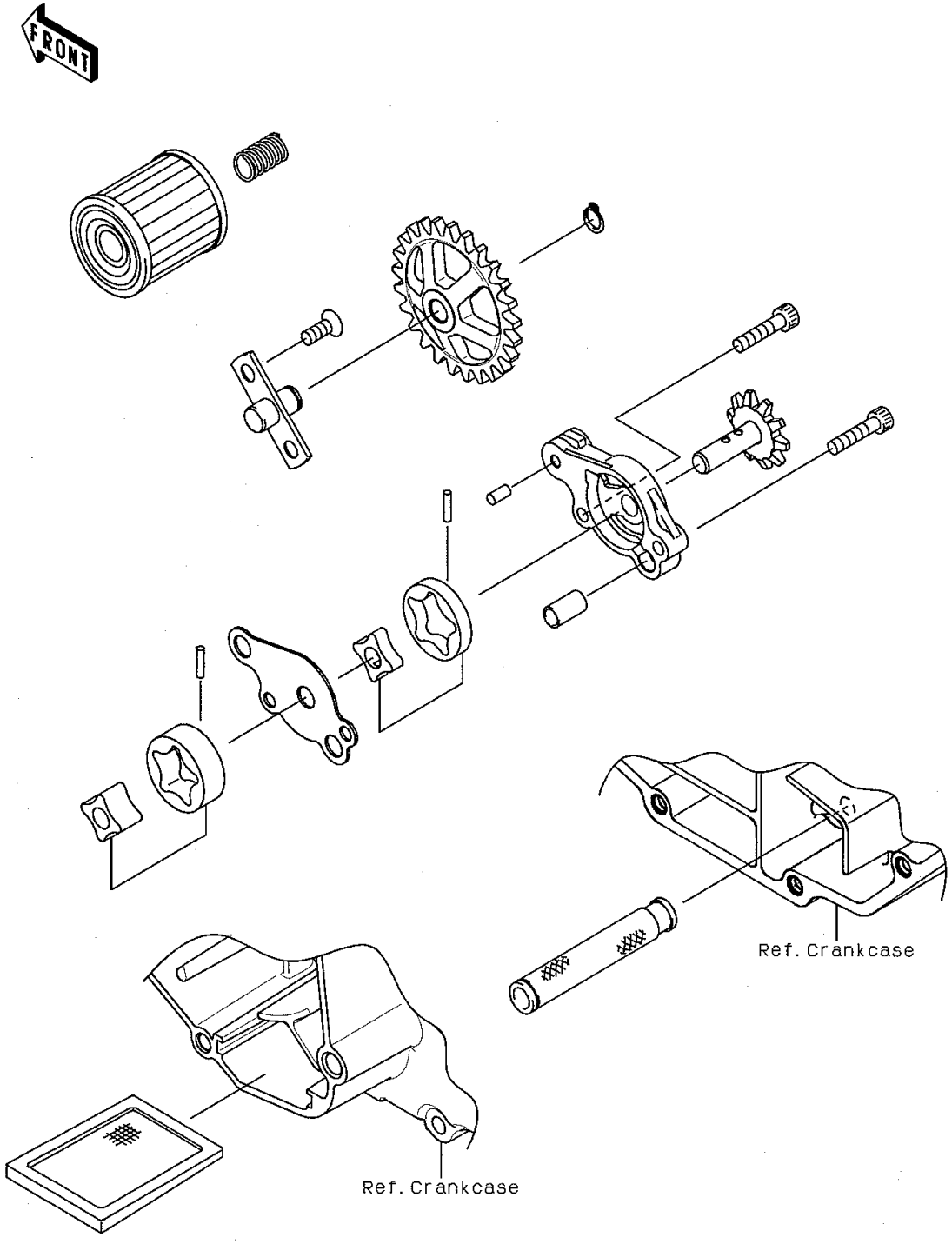
Modifications from '10 KX250XAF to '11 KX250YBF

Engine	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change

Not modified.



Water pump

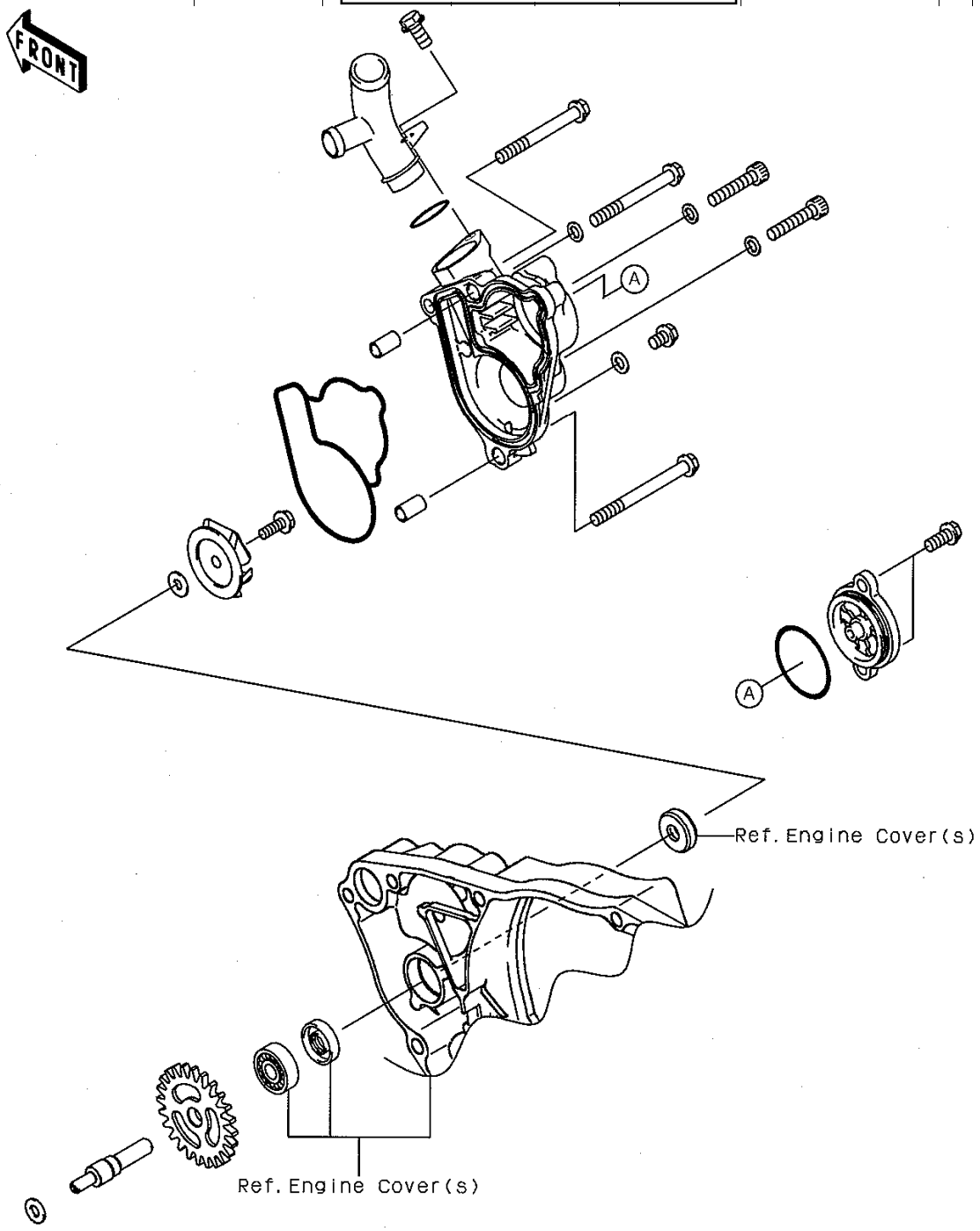
Modifications from '10 KX250XAF to '11 KX250YBF

Engine	KX250Y

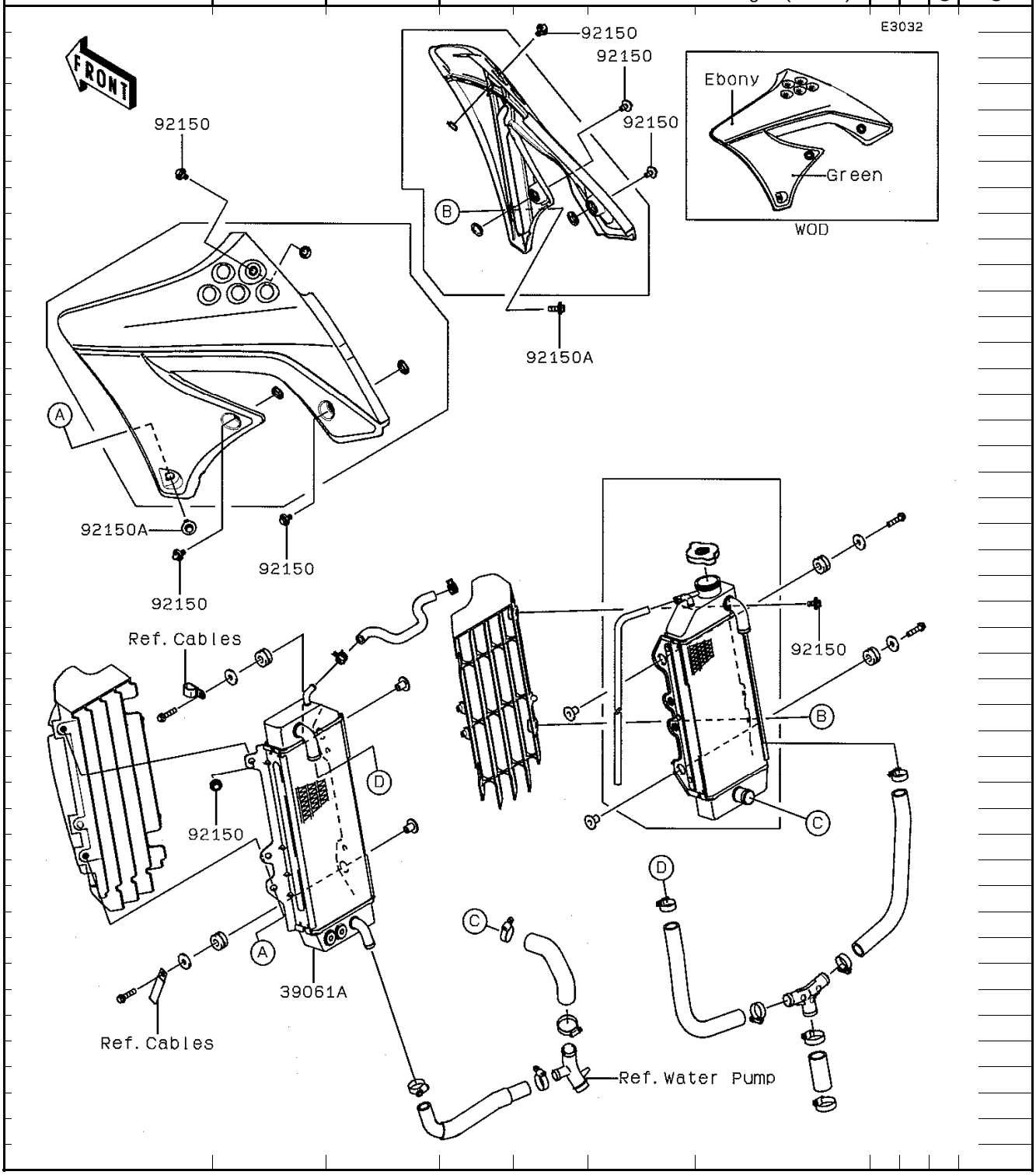
○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change

Not modified.



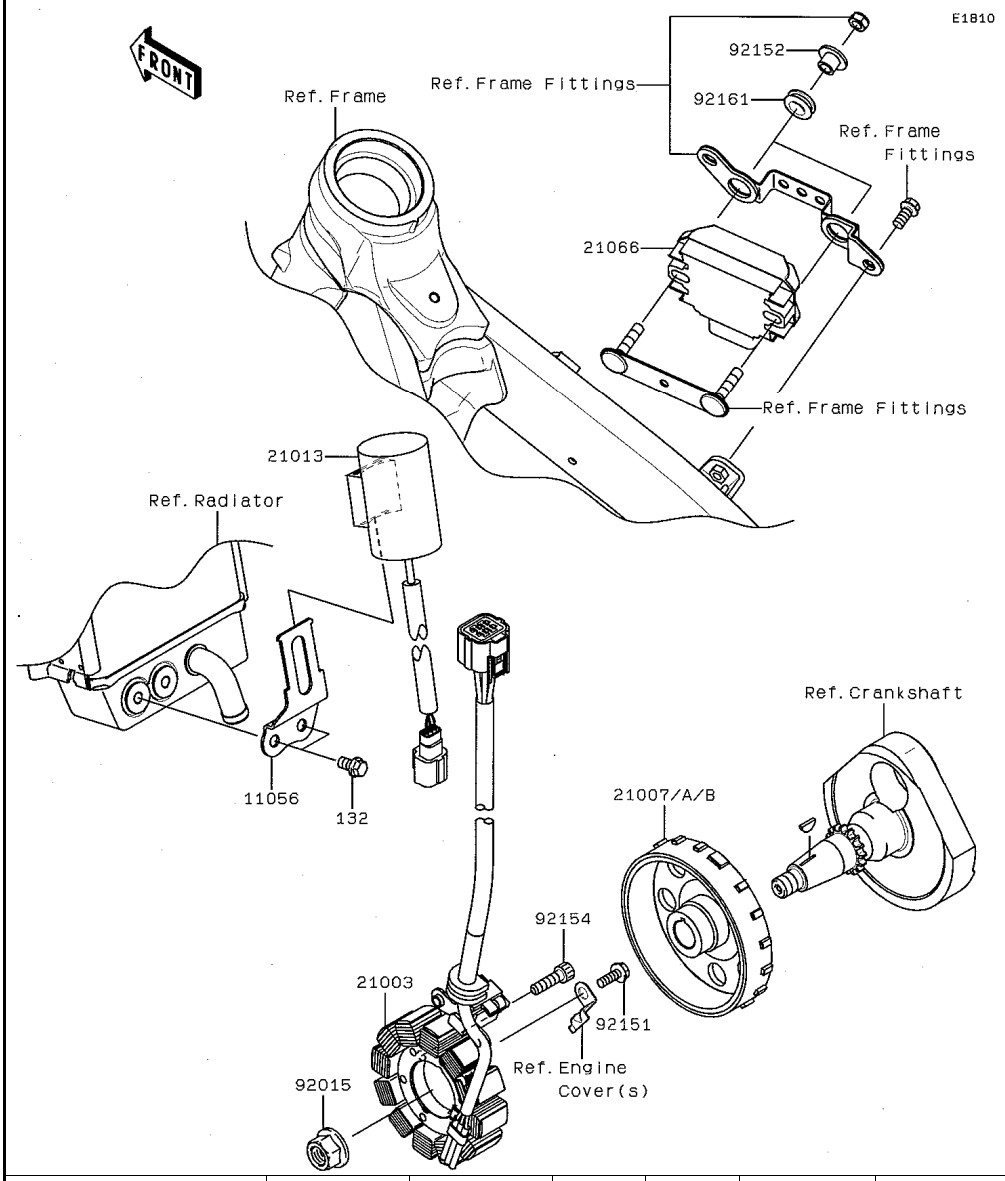
Radiator							
Modifications from '10 KX250XAF to '11 KX250YBF			○ S: '11→'10 interchangeable as a set ○: '11→'10 interchangeable 3: Others 2: Reliability improvement 1: Performance improvement				
Engine	KX250Y						
Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
RADIATOR-ASSY, LH	39061-0179	39061-0190	A capacitor-mounting nut has been installed on the bottom-side tank.			○	○
BOLT	92153-0503	92150-1435	The surface treatment has been changed (8 bolts).			○	○
BOLT	92153-0864	92150-1801	The surface treatment has been changed (2 bolts).			○	○



Generator											
Modifications from '10 KX250XAF to '11 KX250YBF											
Engine	KX250Y										

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
STATOR	21003-0091	21003-0102	New ACG for the FI system without battery power	○			×
ROTOR	21007-0133	21007-0155		○			×
REGULATOR-VOLTAGE		21066-0042	Newly specified due to employment of FI system.	○			×
CAPACITOR		21013-0001	Newly specified due to employment of FI system.	○			×
BRACKET		11056-0001	Used to mount the capacitor.	○			×
BOLT		132BA0610	Used to mount the capacitor.	○			×
NUT	92015-1428	92015-1426	Used to mount the rotor (from M10 to M12).	○			×
BOLT	92150-1684	92154-0031	Used to mount the stator.	○			×
BOLT	92153-0687	92151-1764	Used to mount the crankshaft sensor.	○			×
COLLAR		92152-1449	Used to mount the regulator.	○			×
DAMPER		92161-0266	Used to mount the regulator.	○			×



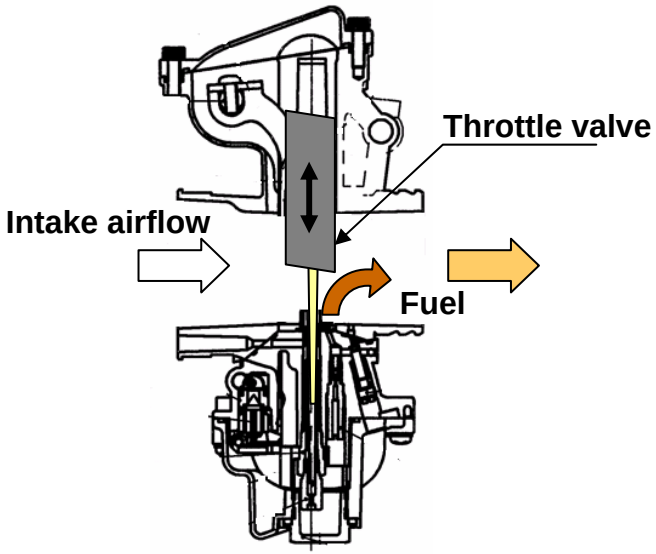
DFI System of 2011 Model KX250F

Differences between Carburetor and DFI (Digital Fuel Injection) System

The Digital Fuel Injection (DFI) system detects the airflow rate, air temperature and air pressure based on various sensor information. This system can provide more precise control of the air-fuel ratio than the carburetor even when air density and other parameters change.
Also, the system can improve the throttle response as it delivers fuel without using a negative intake air pressure.

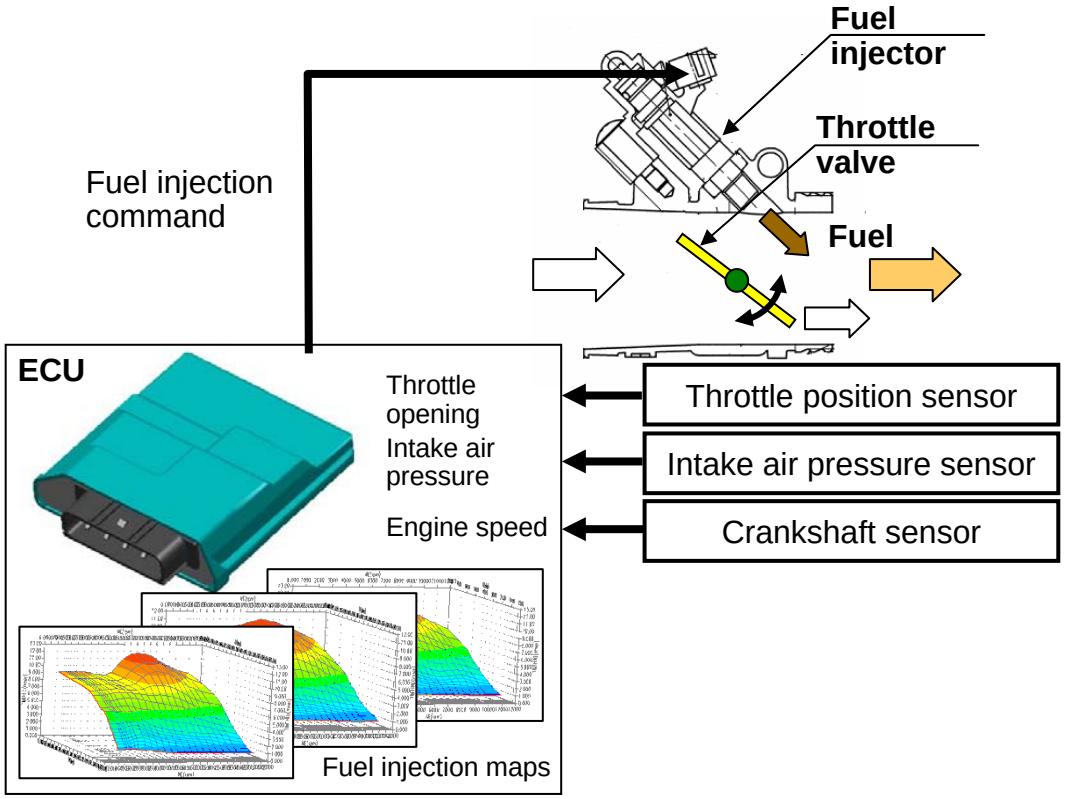
■ Carburetor system

① Detects the intake airflow.
② Determines the fuel rate.
③ Feeds fuel.
These are carried out by the mechanical system.



■ DFI system

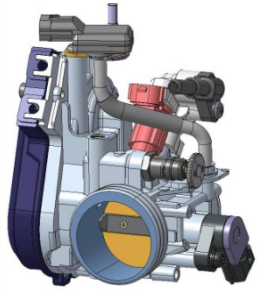
① Detects the throttle opening, intake air pressure, and engine speed using sensors.
② Calculates the sensor information by the CPU, and determines the fuel rate.
③ Injects the fuel via the injector at the determined rate.



KX250F DFI System Outline

The DFI system consists of the ECU, Fuel Pump Module (FPM), throttle body and various sensors (such as crankshaft sensor, water temperature sensor, intake temperature sensor and vehicle-down sensor) that have been designed specifically for motocrossers.

Throttle body

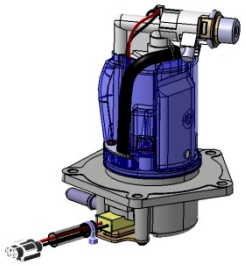


- Fuel injector

- Throttle position sensor

- Intake air pressure sensor

Fuel Pump Module (FPM)



- Fuel pump
- Fuel filter
- Pressure regulator

Various sensors

- Crankshaft sensor

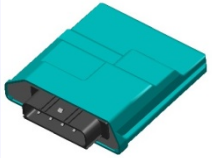
- Water temperature sensor

- Intake air temperature sensor

- Vehicle-down sensor

- Gear position sensor

ECU

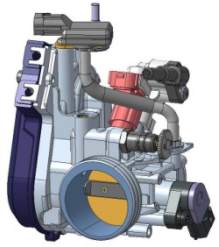
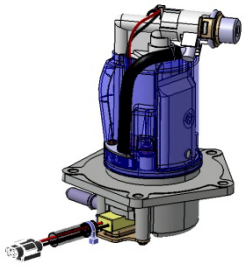


- Built-in CDI igniter

Ignition coil

Features of Motocrosser DFI System

The DFI system is designed specifically for motocrossers, contributing to the greatly enhanced power output.
It features ① high throttle response, ② increased startup performance, ③ highly stable fuel delivery, and ④ compact size and light weight.

Primary components	Advantages
ECU	▪ **Starting control without battery power** ▪ **Reduced startup time** ▪ **Weights approximately 200 g (10% less than the KLX250's ECU)**
Throttle body 	▪ **Quick throttle response by the new Progressing Link mechanism (Th)** ▪ **Weights approximately 600 g (half of the carburetor system)**
Fuel Pump Module (FPM) 	▪ **A cover has been added to the fuel inlet. This ensures stable fuel delivery even when the fuel level changes significantly.** ▪ **The new aluminum body contributes to a reduction in weight to approximately 570 g.**

Features of Motocrosser DFI System

ECU

DFI System Operating without Battery Power

Background and use of DFI system operating without battery power

Compared with the carburetor system, the conventional DFI system consumed a larger amount of current. The mounted battery was necessary because the battery power is required to supply electric power to the DFI system when the engine starts.

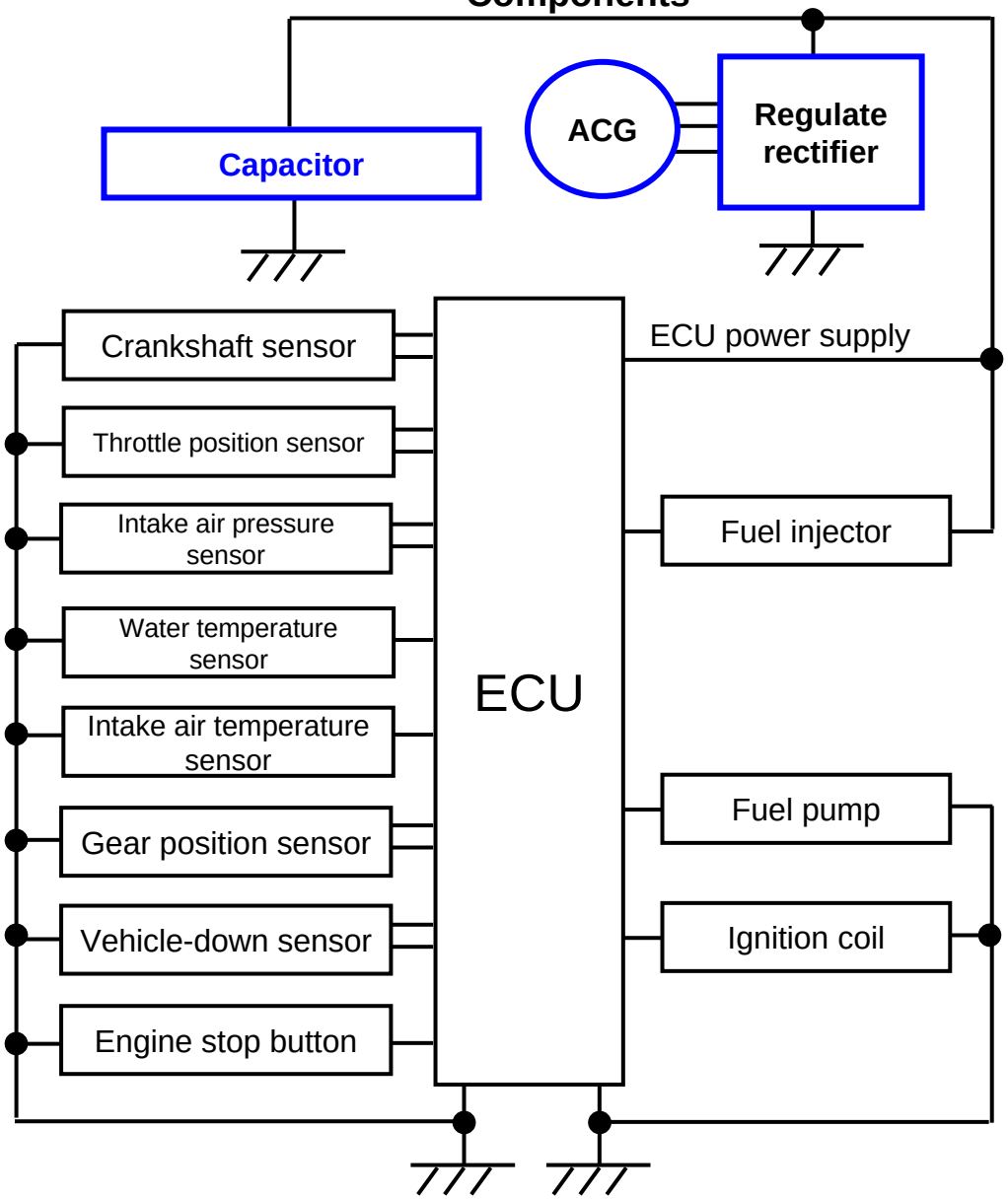
However, in order to reduce weight, our 2011 model does not have a battery - it receives all required electric power for the DFI system from the ACG.

In general, the ACG power is proportional to the engine speed. The kick start may not increase the engine speed and the electric power supplied from the ACG may be insufficient.

The new DFI system has a "Power Delivery" function that can minimize current consumption during engine startup by the ECU. The engine startup performance is even higher than that of a vehicle with a carburetor.

A capacitor has been added to stabilize voltage.

Wiring Diagram between ECU and Primary Components



Self-Diagnostic Functions

**The DFI system has a Troubleshooting mode as a self-diagnostic function.
If the DFI system has failed, the FI alarm indicator flashes and the failure location is identified in the Troubleshooting mode (a special tool is required for this).**

[Notes on motorcycle inspection]
When you inspect the motorcycle, connect a battery and the FI alarm indicator to the motorcycle and check that the FI alarm indicator does not light up.
Also, repeat kicking of the engine more than 10 times and check again that the alarm indicator does not light up. These kicks allow the system to detect a fuel injector or ignition system failure.
*** For details, see the Service Manual.**

Failure code	FI alarm indication pattern in Troubleshooting mode	FI alarm indication in Normal operation mode	Failure location
00		Off	Normal
11		On	Throttle position sensor
12		On	Intake air pressure sensor
13		On	Intake air temperature sensor
14		On	Water temperature sensor
21		On	Crankshaft sensor
25		On	Gear position sensor
31		On	Vehicle-down sensor
41		On	Fuel injector
46		On	Fuel pump
51		On	Ignition coil

Sensor & Device Failure

The DFI system has failure function to allow you to start the engine and ride at a minimum rate even if the DFI system has failed.

Failure location	Start	Riding
Throttle position sensor	Possible	Possible
Intake air pressure sensor	Possible	Possible
Intake air temperature sensor	Possible	Possible
Water temperature sensor	Possible	Possible
Crankshaft sensor	Impossible	Stop
Gear position sensor	Possible	Possible
Vehicle-down sensor	Impossible	Stop
Fuel injector	Impossible	Stop
Fuel pump	Impossible	Stop
Ignition coil	Impossible	Stop

For rider's safe and engine protection, engine start is impossible and engine is stopped while running if crankshaft sensor, vehicle-down sensor, fuel injector, fuel pump, and ignition coil failure detected.

Notes on Handling ECU

**The Electronic Control Unit (ECU) is a precision electronic part.
Be sure to handle it with care when carrying out maintenance.**

- **Because the ECU is a precision part, do not drop or subject it to impact.**

- **Do not touch the ECU terminals.
  The electronic circuits may be damaged by the static charge.**

- **Remove water, dust, mud and other substances from around the ECU connector before removing or installing the ECU.**

- **When installing the ECU, fully insert it into the slot until the ECU connector locks. Otherwise, the ECU operation may fail.**

- **Do not splash water under high pressure on the ECU connector for a long period of time.
  Otherwise, the ECU may fail to start or the ECU electronic parts may be damaged.**

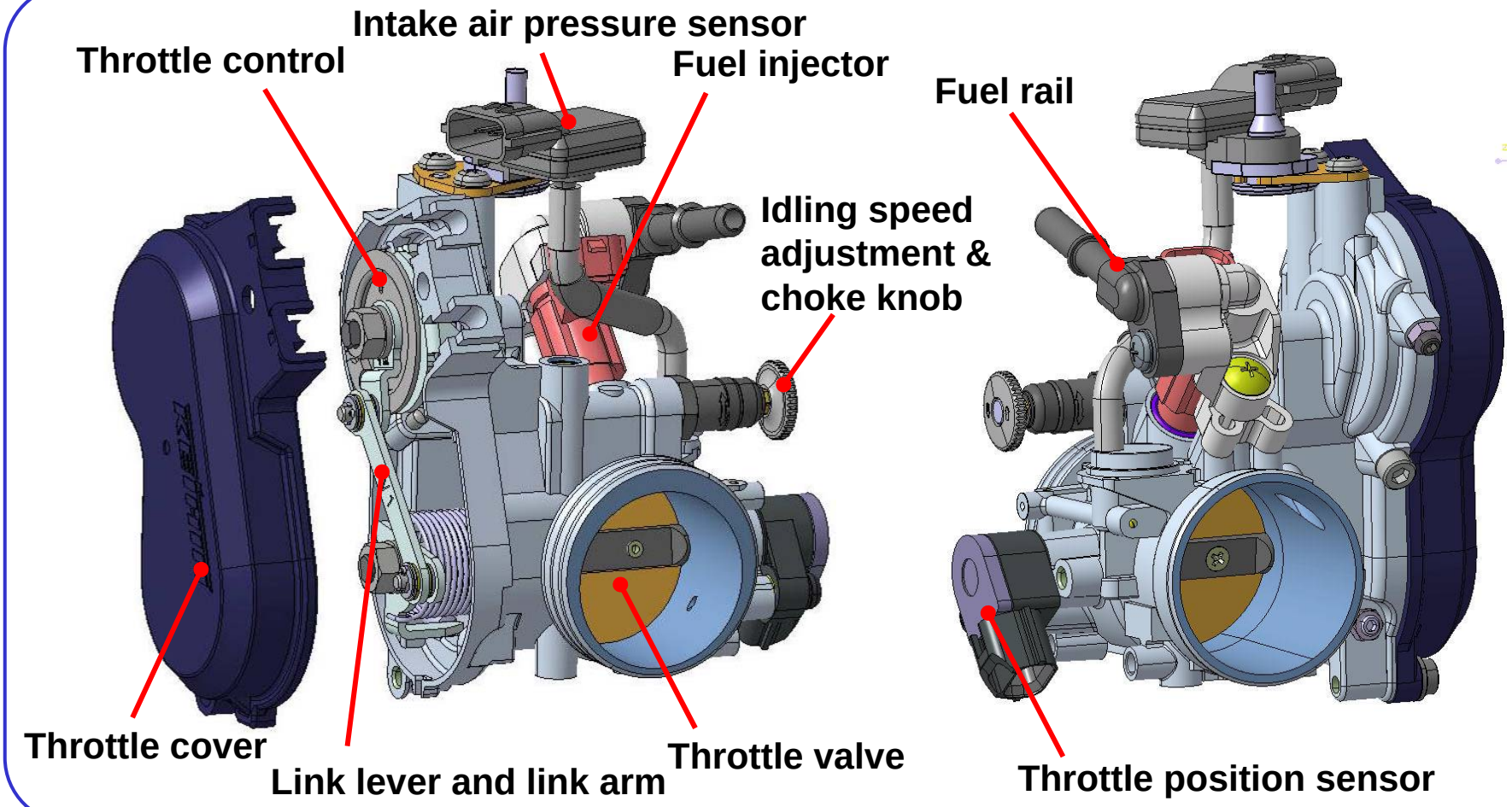
Features of Motocrosser DFI System

Throttle Body

KX250F Throttle Body Specifications

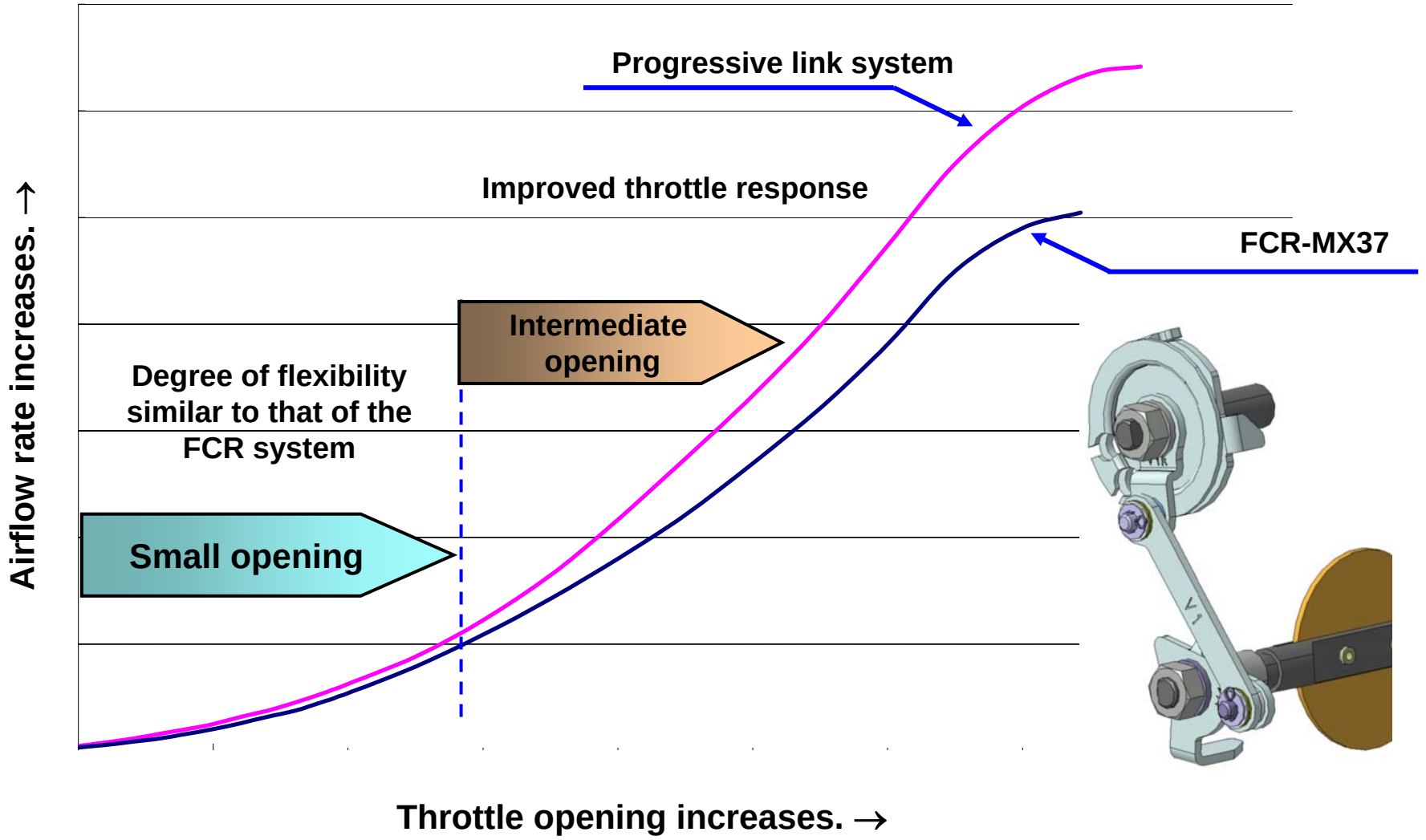
Dedicated design of motocrossers

- **Throttle control: Uses the progressive link system.**
- **Throttle bore: 43 mm diameter**
- **Reduced weight: Approximately 600 g of throttle body (half of the carburetor system)**



Features: Progressive Link

**The new Progressive Link structure optimizes the intake airflow rate.
The throttle operation is flexible when the valve opening is small, and the throttle quickly responds when the valve opening is intermediate (approximate 3/8).**



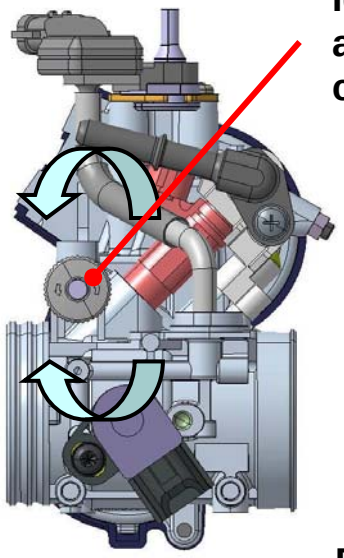
Adjustment Functions: Idling speed adjustment and cold starter

The throttle body has a bypass air tunnel separate from its main bore. It has:
① Airflow rate adjustment function at idling speed, and
② Cold starter function.

① Airflow rate adjustment at idling speed

Rotate the control CCW.

Airflow rate increases.
↓
Engine speed increases.

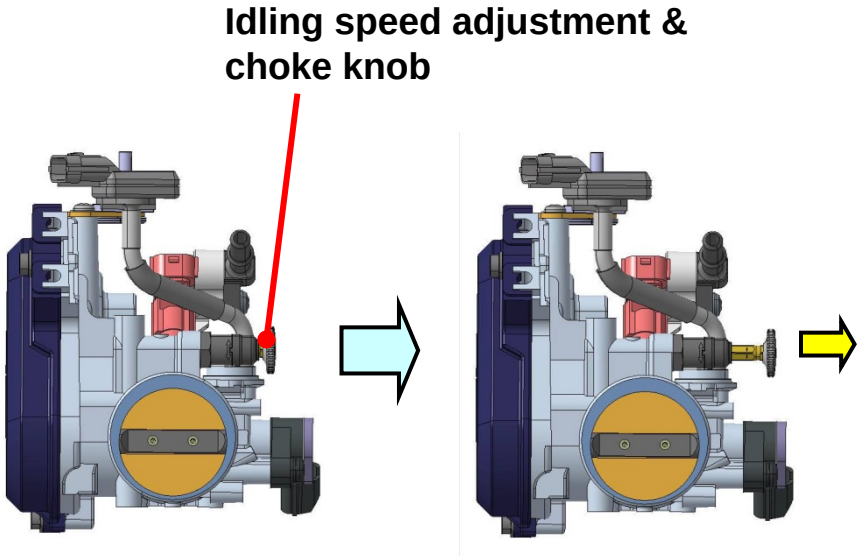


Idling speed adjustment & choke knob

Rotate the control CW.

Airflow rate decreases.
↓
Engine speed decreases.

② Cold starter



Pull out the control toward you.
→ It functions as the starter when the engine is cold. (Engine speed increases.)

Notes on Handling Throttle Body

The throttle body (system) is a precision electronic part. Be sure to handle it with care when carrying out maintenance.

- **Before removing or installing the throttle body, remove dust, mud and other substances from around the throttle body to prevent them from entering the throttle valve, throttle link lever, fuel pipe joint, and intake air pressure sensor of the fuel injector.**
- **Do not drop or subject the throttle body to impact.**

  In particular, if the throttle lever or link lever is deformed or damaged, the throttle valve may fail to return smoothly. In the worst case, it may result in an accident.

  Because the fuel injector, intake air pressure sensor, and throttle position sensor are high-precision parts, handle them with care.
- **Do not assemble, modify or process the throttle valve, link lever, throttle stopper or other parts except when specified to do so by the Service Manual.**
- **Use only genuine parts by following the instructions in the Service Manual when you replace parts.**

Throttle Body Checkpoints (1)

(1) Throttle and starter system

Parts	Checkpoint	Method	Requirements	Corrective actions
Throttle system	Operability	Check its operation.	The throttle operation must be smooth.	Replace the assembly.
Throttle valve	Appearance	Visual inspection	There must be no deformation or damage.	↑
Throttle lever	Appearance	Visual inspection	There must be no deformation or damage.	↑
Link arm	Appearance	Visual inspection	There must be no deformation or damage.	↑
Link lever	Appearance	Visual inspection	There must be no deformation or damage.	↑
Throttle cover	Appearance	Visual inspection	There must be no deformation or damage.	Replace it.
Idling speed adjustment and choke knob	Operability	Check its operation.	The throttle operation must be smooth.	↑

Throttle Body Checkpoints (2)

(2) Fuel system

Parts	Checkpoint	Method	Requirements	Corrective actions
Fuel rail	Appearance and air tightness	Visual inspection	There must be no cracks, damage or fuel leakages.	Replace it.

(3) Sensors

Parts	Checkpoint	Method	Requirements	Corrective actions
Intake air pressure sensor	Voltage	Output voltage	See the Service Manual.	Replace it.
	Appearance	Visual inspection	There must be no cracks or damage.	↑
Rubber pipe of intake air pressure sensor	Appearance	Visual inspection	There must be no cracks, damage or disconnected components.	↑
Throttle position sensor	Voltage	Output voltage	See the Service Manual.	↑
	Connector	Visual inspection	There must be no cracks, damage or disconnected components.	↑
	Harness	Visual inspection	There must be no cable damage/exposure or disconnection.	↑
	Appearance	Visual inspection	There must be no cracks or damage.	↑
Fuel injector	Resistance	Resistance between pins	See the Service Manual.	↑
	Appearance and air tightness	Visual inspection	There must be no cracks, damage or fuel leakages.	↑

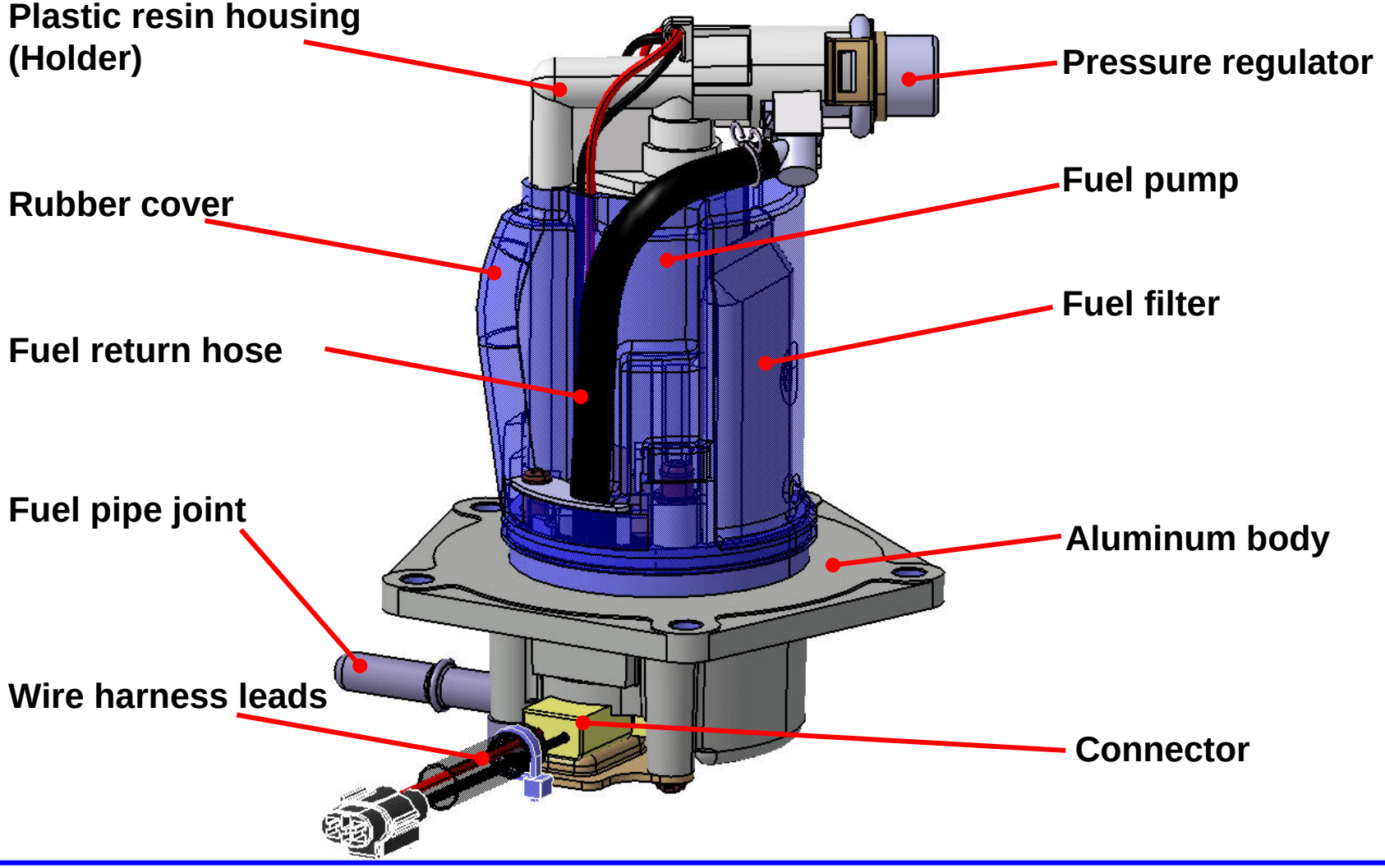
- **For the standard parts replacement and adjustment procedure, see the Service Manual.**

Fuel Pump Module (FPM)

Fuel Pump Module (FPM) Specifications

Dedicated design of motocrossers

- **Optimized layout of rubber cover and fuel return hose to allow constant fuel delivery**
- **Weight reduced by using plastic resin housing and aluminum body**



Notes on Handling FPM

The Fuel Pump Module (FPM) is an important fuel delivery system component. Be sure to handle it with care when carrying out maintenance.

- **Before removing or installing the throttle body, remove dust, mud and other substances from around the throttle body to prevent them from entering the throttle valve, throttle link lever, fuel pipe joint, and intake air pressure sensor of the fuel injector.**
- **Do not disassemble the components (such as power terminals, plastic housing, pressure regulator, fuel pipe joint, and connectors).**
- **Do not drop or subject the FPM to impact.**
  (When you have removed the fuel tank, do not let the fuel pipe joint come in contact with the ground.)
- **When you have removed the fuel hose, care not to let any foreign substances enter the fuel pipe.**
- **Do not carry the FPM by holding its wire harness.**
- **When you have removed the FPM from the fuel tank, do not leave it as it is.**
- **Ensure that no electricity is flowing when the fuel tank is empty.**
- **Replace the FPM by following the relevant procedure in the Service Manual.**

FPM Checkpoints (1)

(1) Performance and functions

Parts	Checkpoint	Method	Requirements	Corrective actions
Fuel pump	Discharging	Discharge rate	See the Service Manual.	Replace the assembly.
	Cable disconnection	Continuity check	The signal circuit must be conductive.	↑
Pressure regulator	Control pressure	Pressure measurement	See the Service Manual.	↑

(2) Air tightness

Parts	Checkpoint	Method	Requirements	Corrective actions
Connector	Appearance and air tightness	Visual inspection	There must be no cracks, damage or fuel leakages.	Replace the assembly.
Plastic fuel pipe joint	Appearance and air tightness	Visual inspection	There must be no cracks, damage or fuel leakages.	↑
Plastic resin housing (Holder)	Appearance and air tightness	Visual inspection	There must be no cracks, damage or fuel leakages.	↑
Aluminum body	Appearance	Visual inspection	There must be no cracks, damage or fuel leakages.	↑
	O-ring seat	Visual inspection	There must be no cracks, dents or fuel leakages.	↑

FPM Checkpoints (2)

(3) Appearance

Parts	Checkpoint	Method	Requirements	Corrective actions
Wire harness leads	Appearance	Visual inspection	There must be no cable damage/exposure or disconnection.	Replace the assembly.
Rubber cover	Appearance	Visual inspection	There must be no cracks or damage.	↑

- **For the standard FPM replacement procedure, see the Service Manual.**

5. Detailed Specifications (Frame)

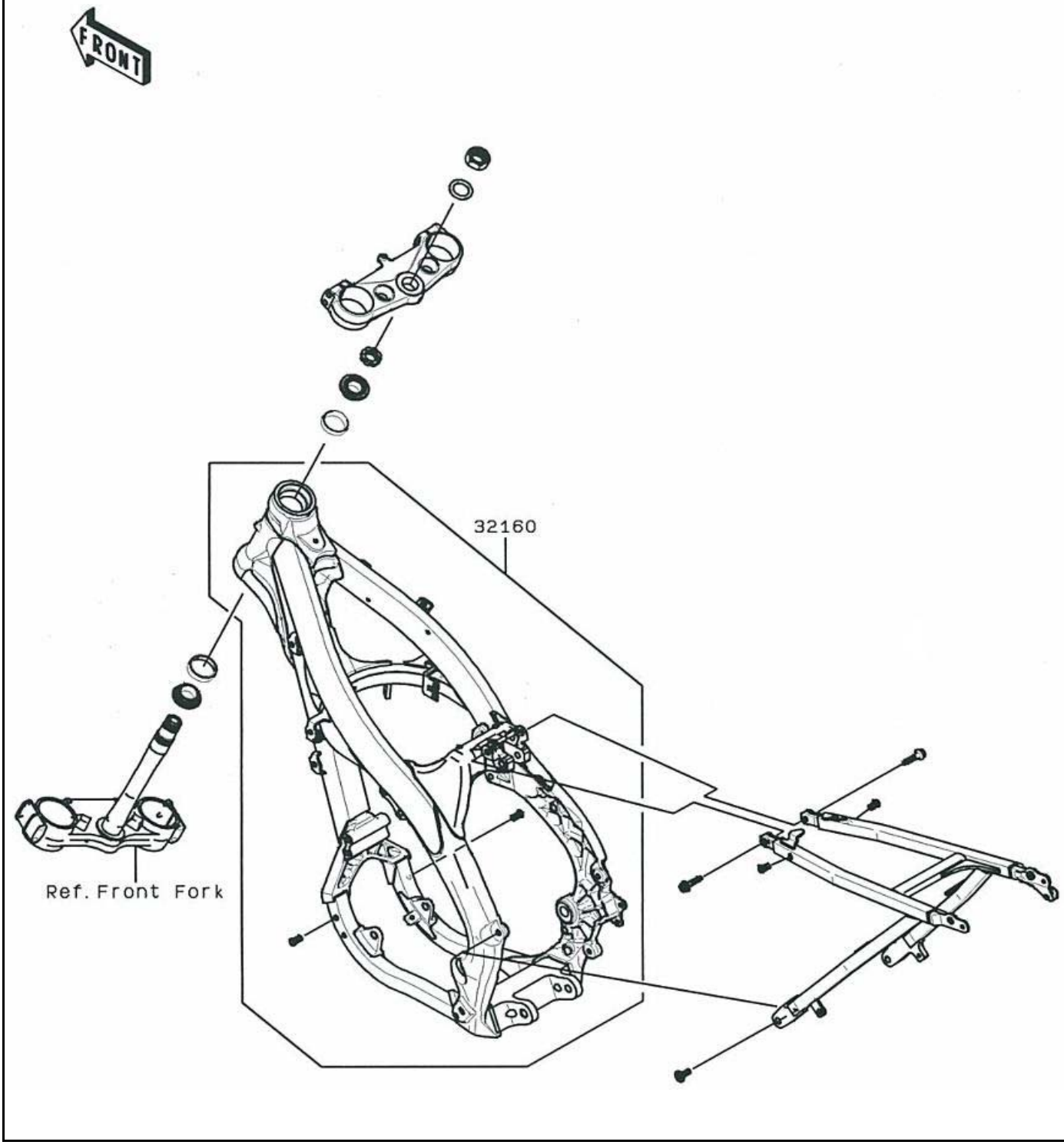
Frame

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Frame comp (main)	32160-0417	32160-0404	The bracket has been added due to employment of FI system.			○	×



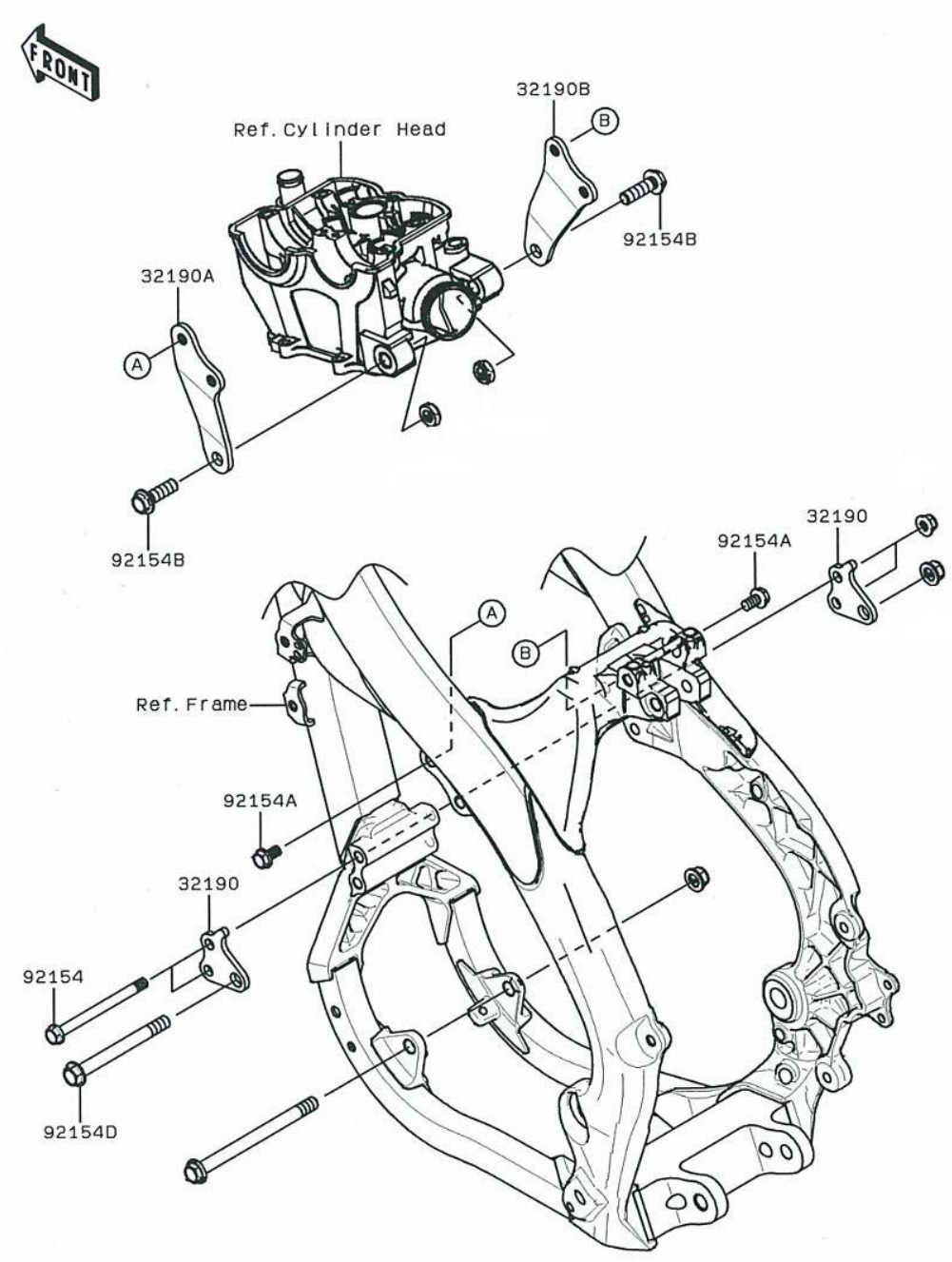
Frame fittings (1/3)

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Engine bracket, upper, LH	32190-0391	32190-0477	The material and thickness have been changed.: From aluminum t8 to iron t4.5	○			○ S
Engine bracket, upper, RH	32190-0392	32190-0478	The material and thickness have been changed.: From aluminum t8 to iron t4.5	○			○ S
Engine bracket, front	32190-0431	32190-0461	The material and thickness have been changed.: From aluminum t6 to iron t4.5	○			○ S
Bolt, upper M8	130CA0818	92154-0380	From M8 x 18 to M8 x 14	○			○ S
Bolt, upper M10	92153-0802	92154-0381	From M10 x 35 to M10 x 32	○			○ S
Blot, front M8	92153-1916	92154-0378	From M8 x 102 to M8 x 98	○			○ S
Blot, front M10	92153-1917	92154-0518	From M10 x 104 to M10 x 100	○			○ S



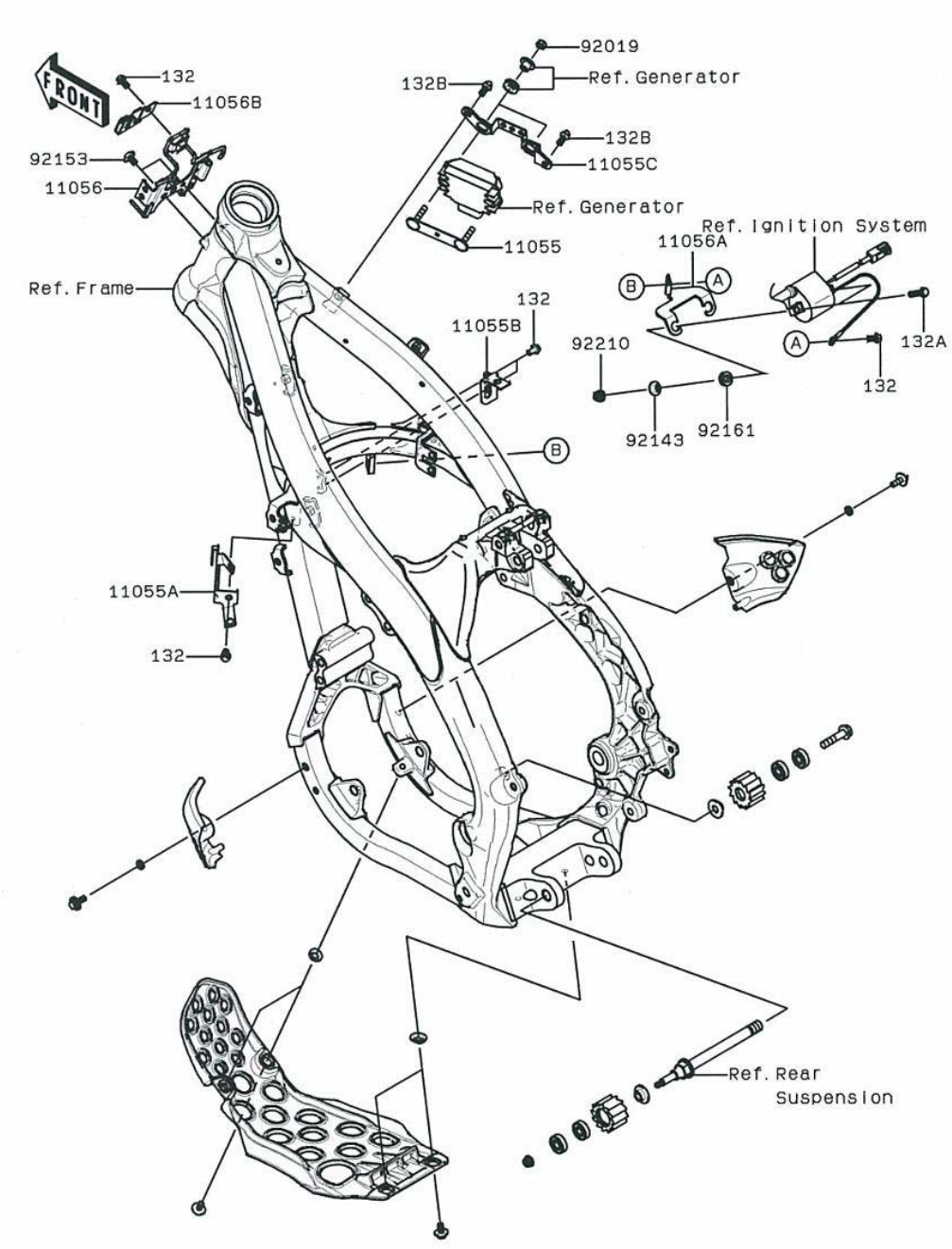
Frame fittings (2/3)

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bracket, diagnostic system, optional	-	11056-0505	Newly specified due to employment of FI system.			○	×
Bracket, ECU	11055-1474	11056-0069	Changed from igniter to ECU due to employment of FI system.			○	×
Bolt, diagnostic system, optional	-	132BA0610	Newly specified due to employment of FI system.			○	×
Bolt, ECU bracket	-	92153-1628	↑			○	×
Bracket, regulator	-	11055-1542	↑			○	×
Bracket, regulator	-	11055-0870	↑			○	×
Nut, lock	-	92019-008	↑			○	×
Bolt	-	132BC0612	↑			○	×



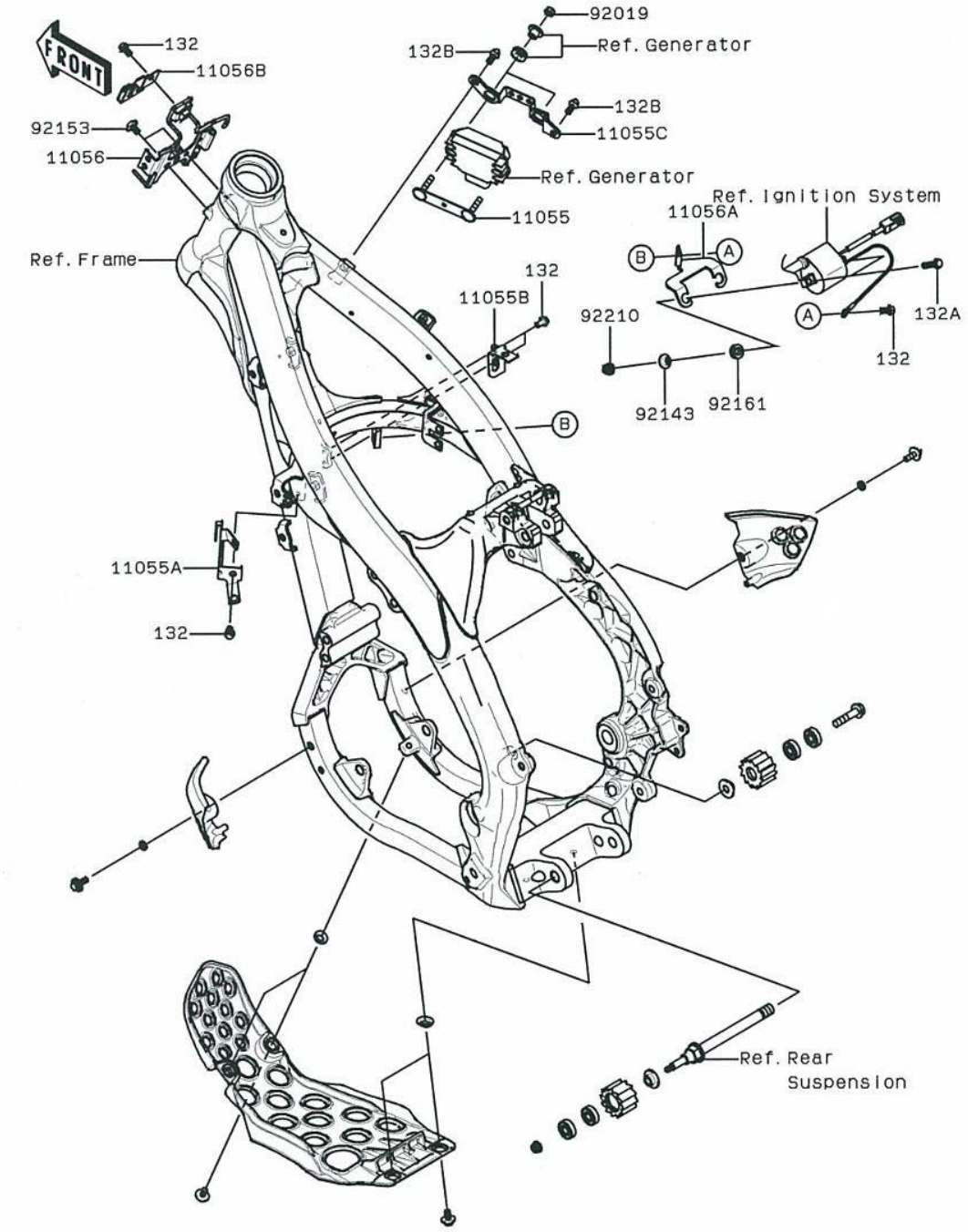
Frame fittings (3/3)

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bracket, ACG connector	-	11055-1540	Newly specified due to employment of FI system.			○	×
Bracket, vehicle down senso	-	11055-1541	↑			○	×
Bracket, Ig coil	-	11056-0210	↑			○	×
Damper, Ig coil	-	92161-0878	↑			○	×
Collar, Ig coil	-	92143-1057	↑			○	×
Nut, Ig coil	-	92210-0630	↑			○	×
Bolt, Ig coil	-	132BA0625	↑			○	×
Bolt, bracket mounting	-	132BA0610	↑			○	×



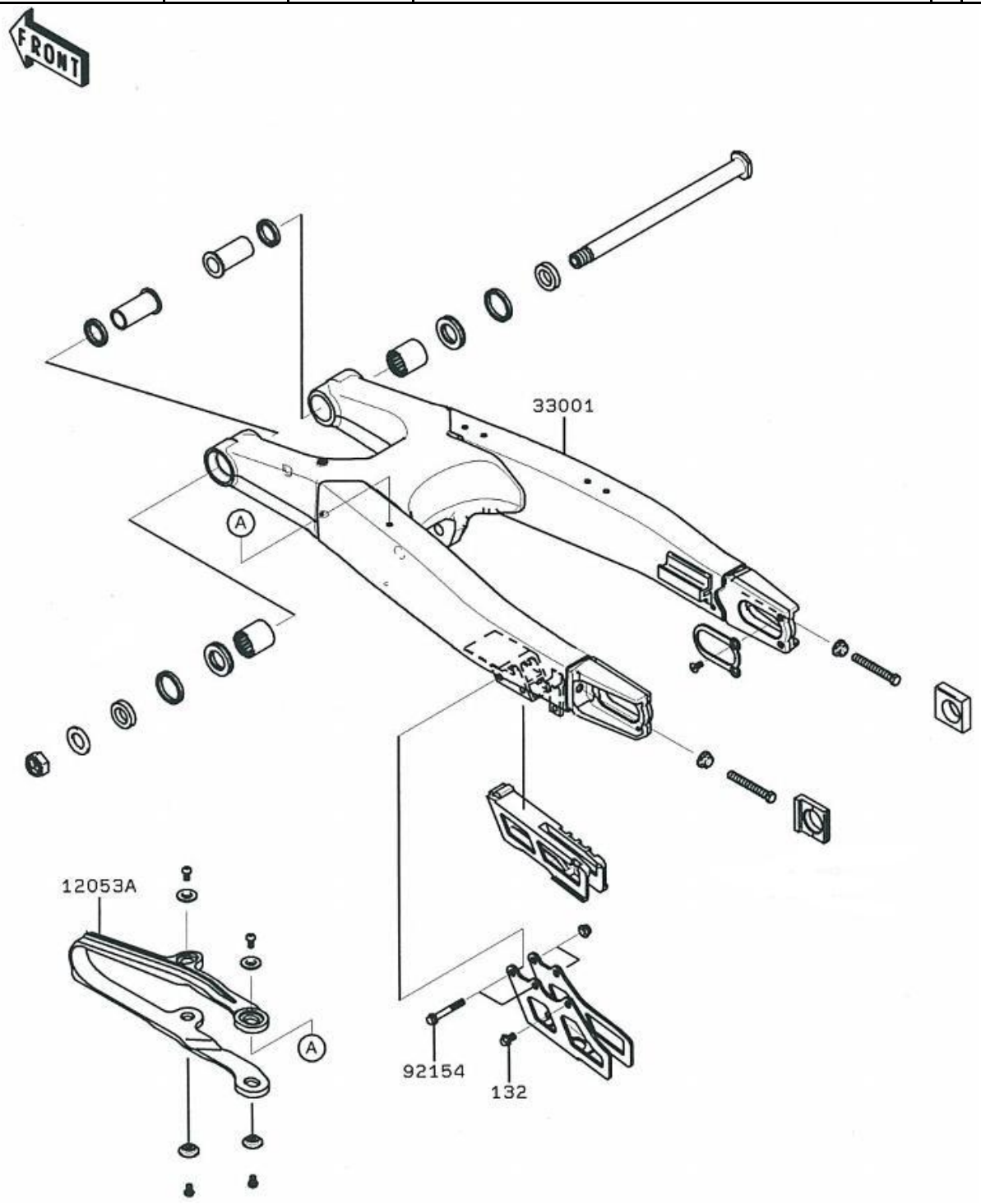
Swingarm

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Swingarm comp	33001-0196	33001-0245	The overall length has been changed (+6 mm compared with '10).			○	○
Guide (chain)	12053-0160	12053-0178	The durability has been improved.		○		○
Bolt, M6 x 42	92154-0130	92154-0511	The surface treatment has been changed.			○	○
Bolt, M6 x 10	92151-1233	132BA0610	↑			○	○



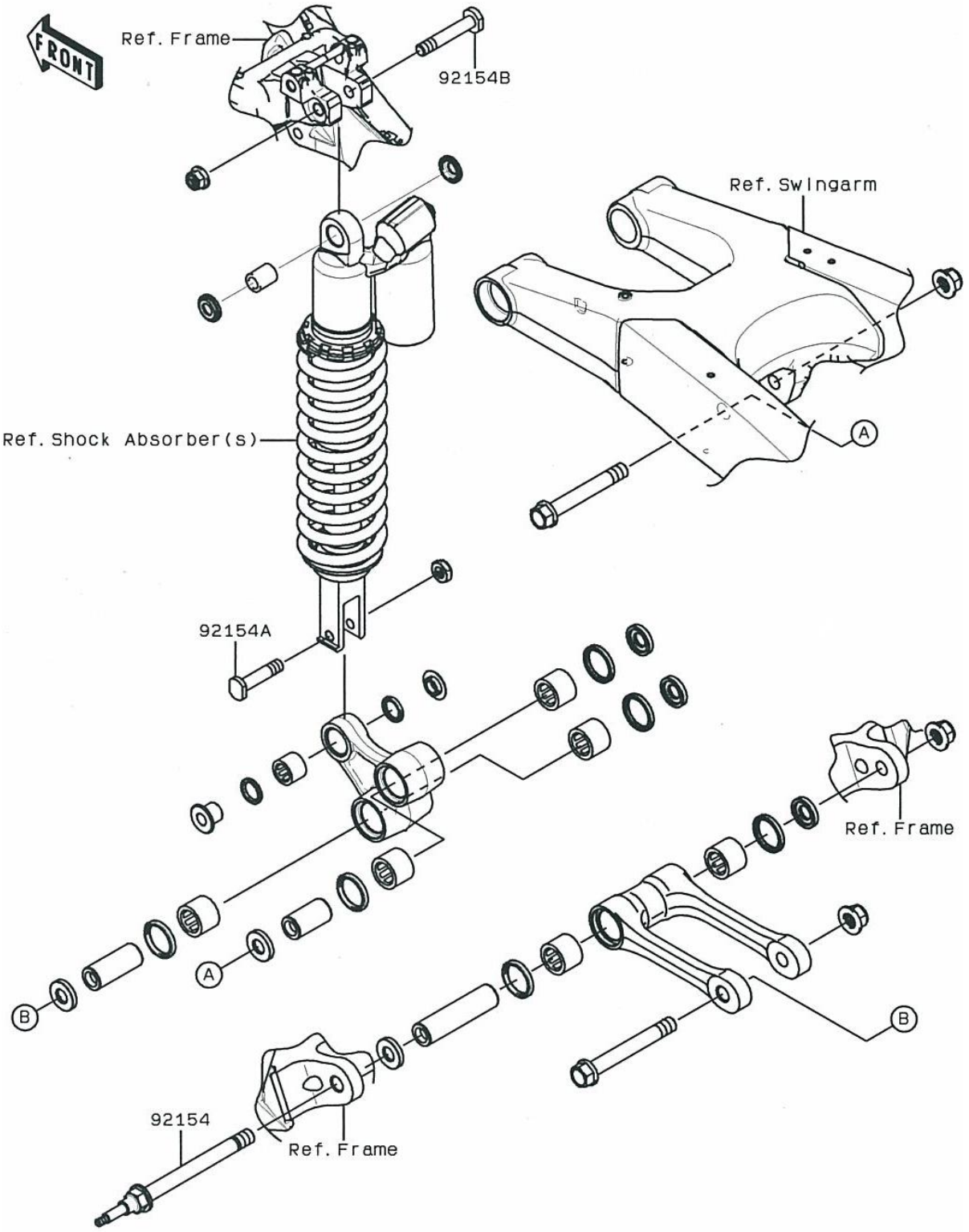
Suspension

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bolt, shock absorber	92153-1386	92154-0513	The surface treatment has been changed.			○	×
Bolt, shock lower	92153-0937	92154-0512	↑			○	×
Bolt, tie-rod	92154-0106	92154-0394	↑			○	×



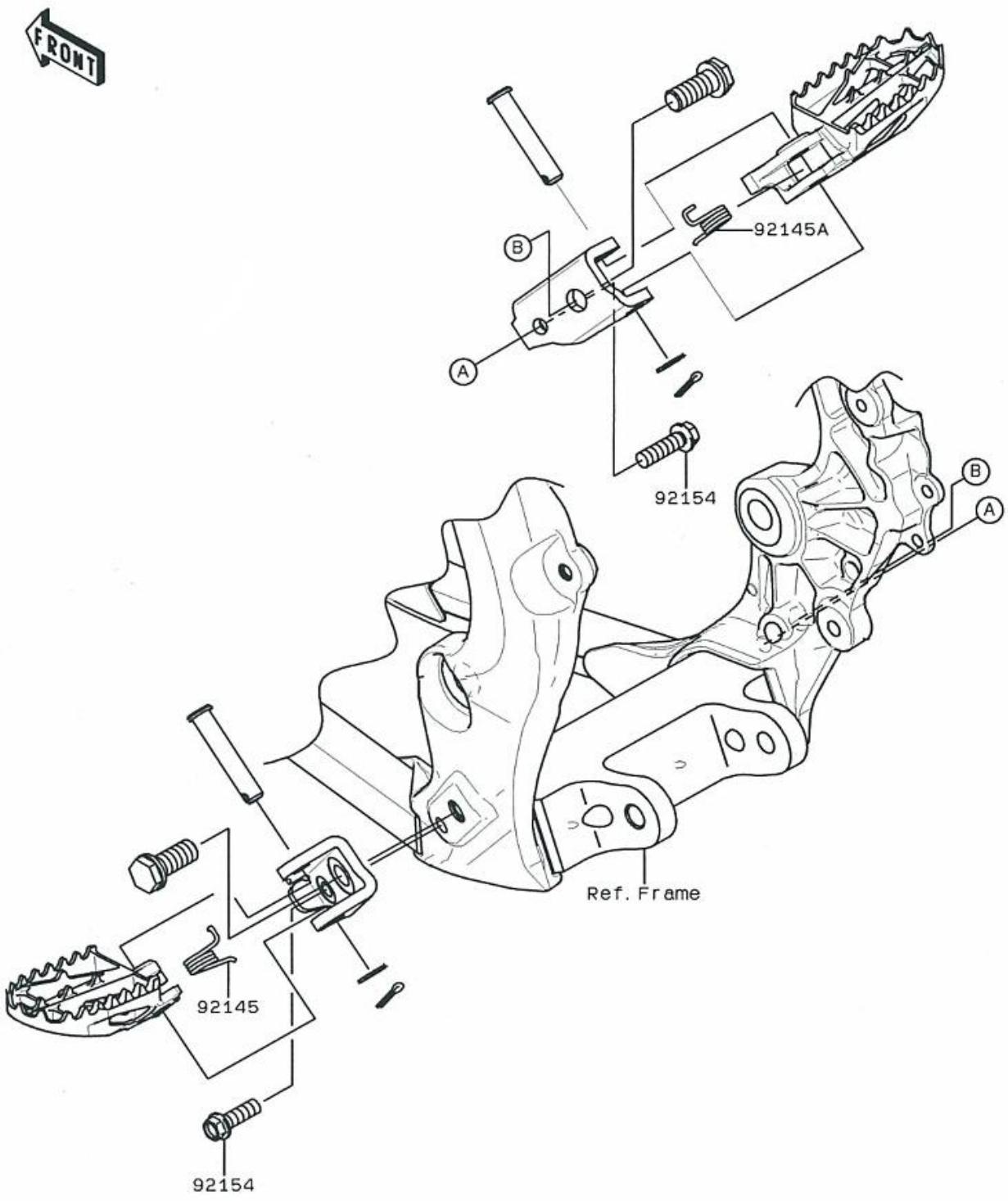
Foot rest

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bolt, M8	92153-0838	92154-0515	The surface treatment has been changed.			○	×
Spring, LH	92145-0198	92145-0800	↑			○	×
Spring, RH	92145-0199	92145-0801	↑			○	×



Fender

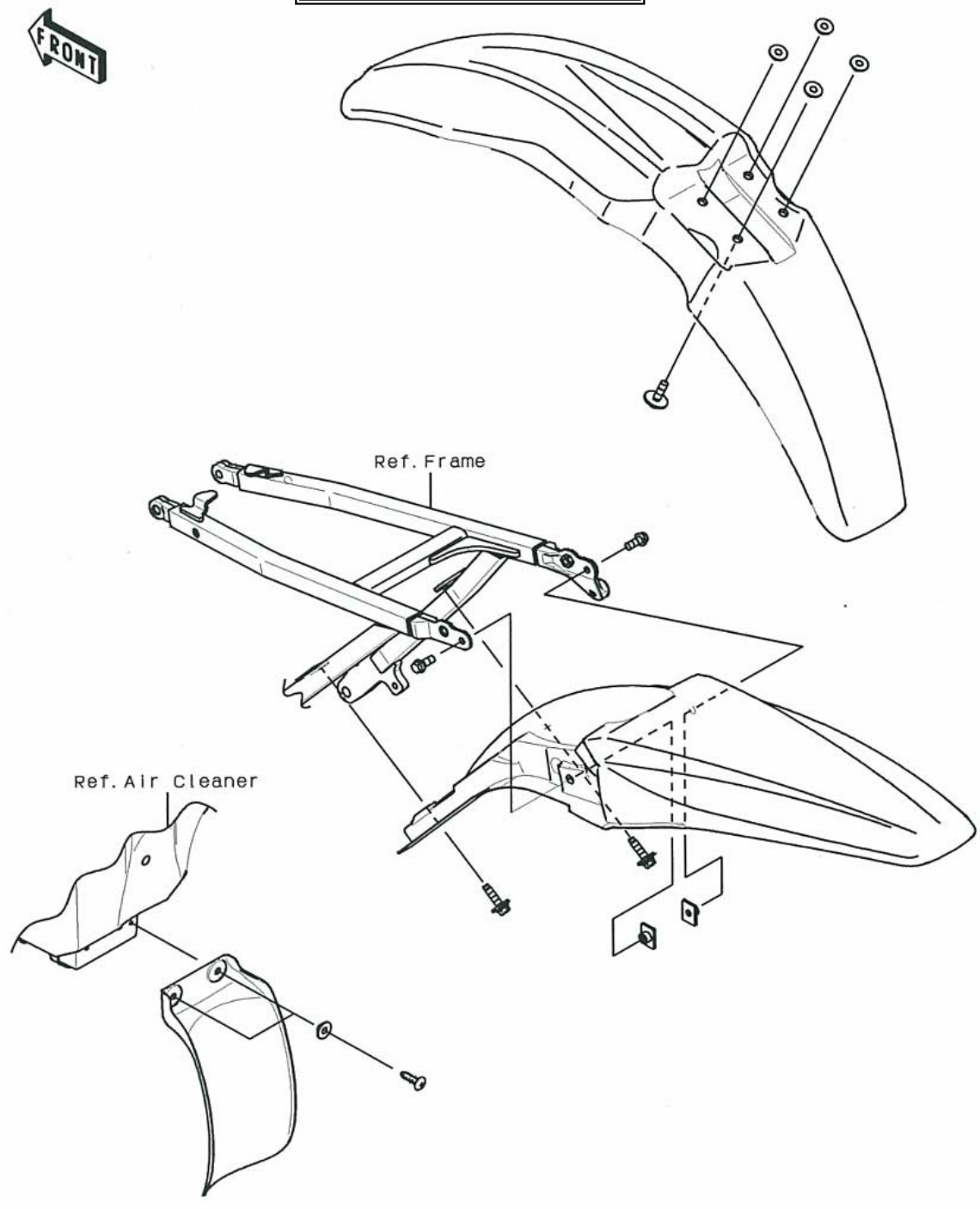
Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change

Not modified.



Stand

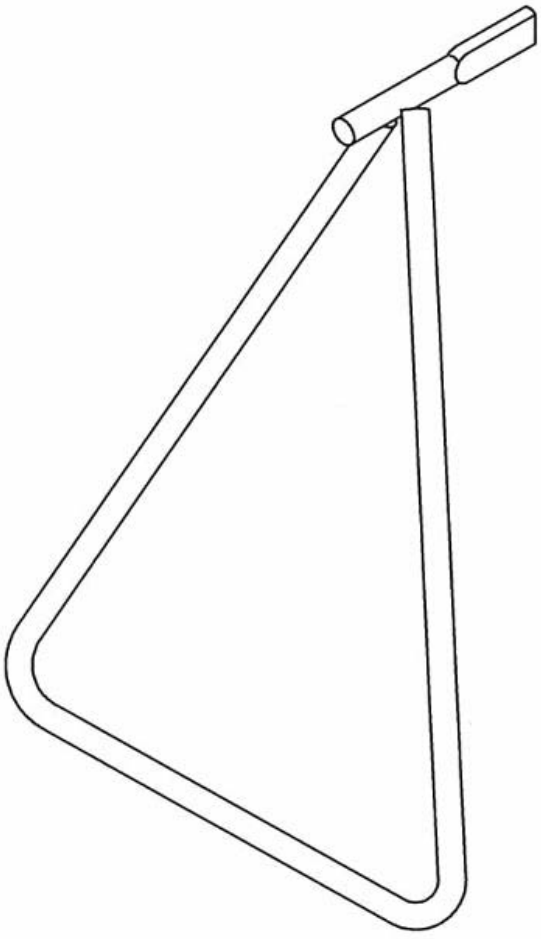
Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change

Not modified.



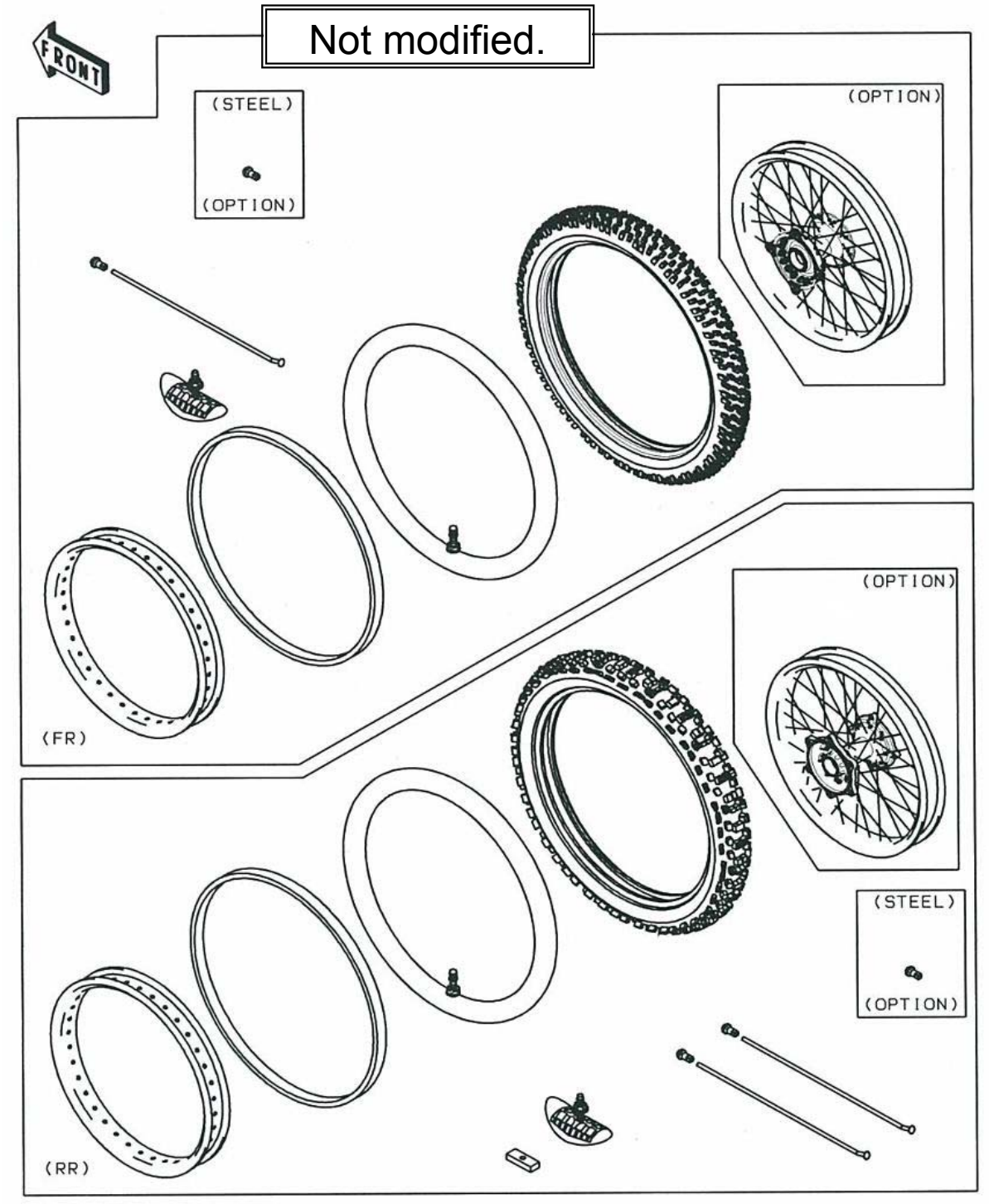
Wheel, tire

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

O S: '11→'10 interchangeable as a set
O: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change



Front hub

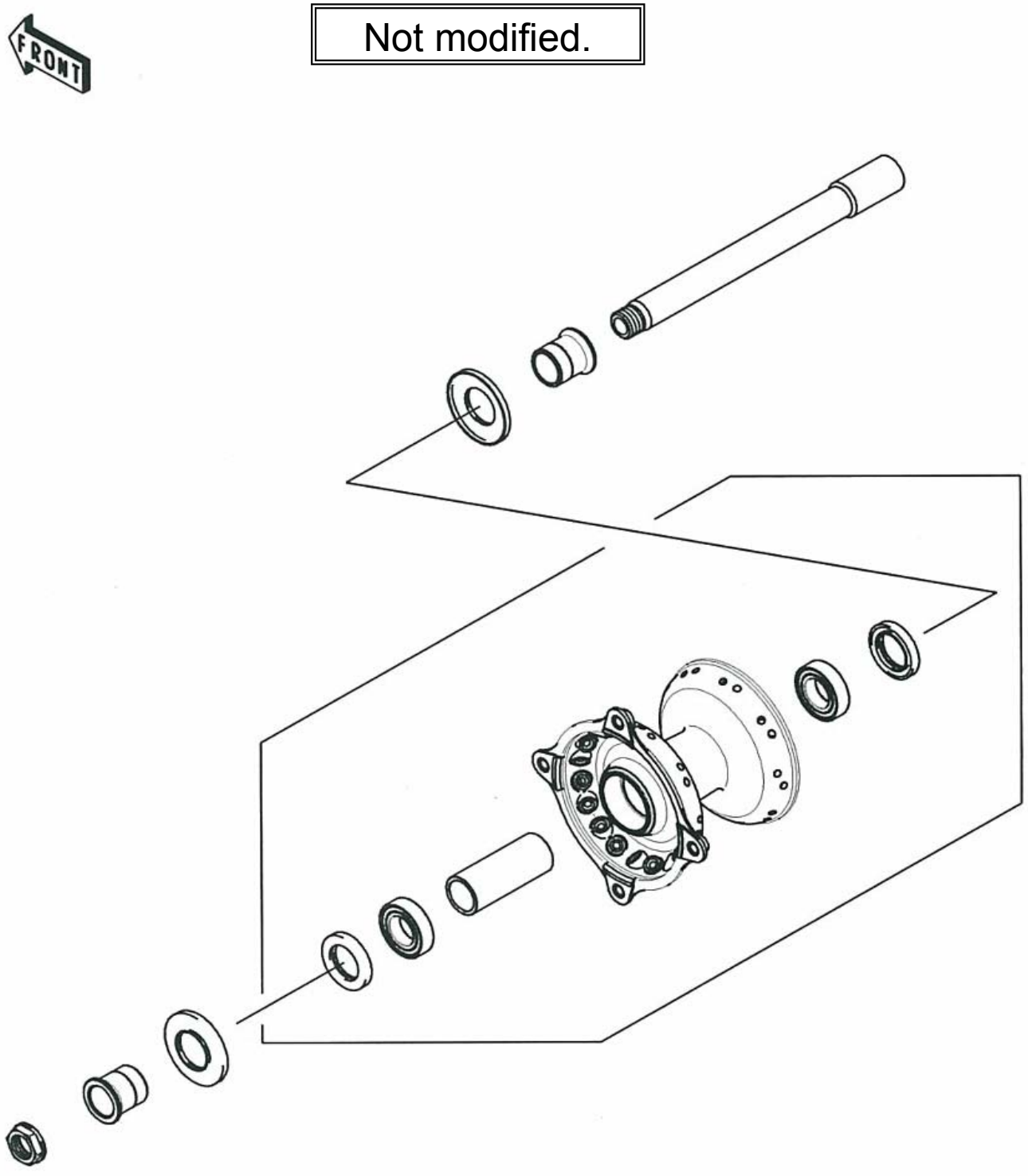
Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change

Not modified.



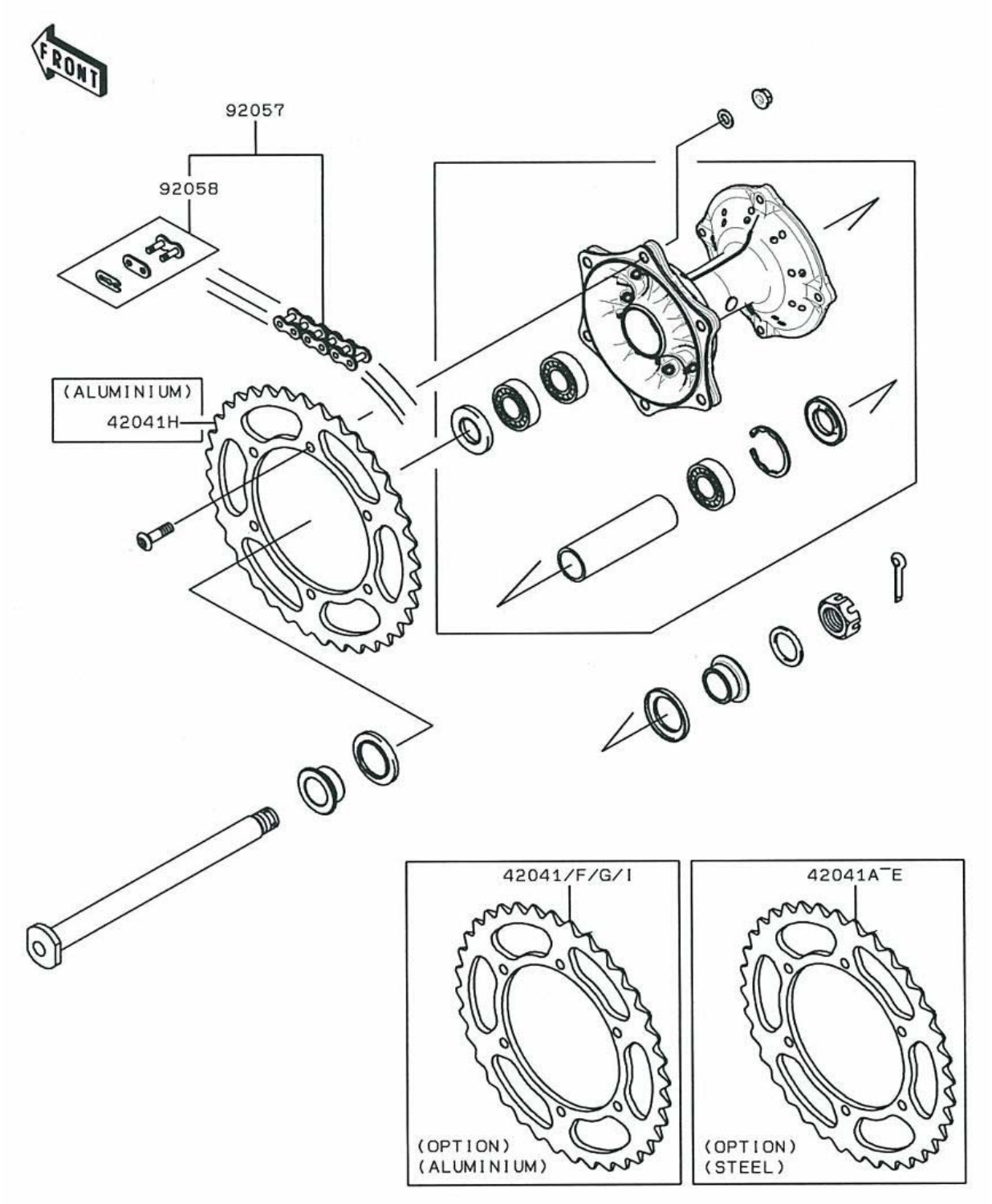
Rear hub & chain

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Chain	92057-0191	92057-0192	From 112LINK to 114LINK	○			○ S
Sprocket	42041-1448	42041-1450	From AL48T to AL50T (JPN/US/CN/AU)	○			○ S



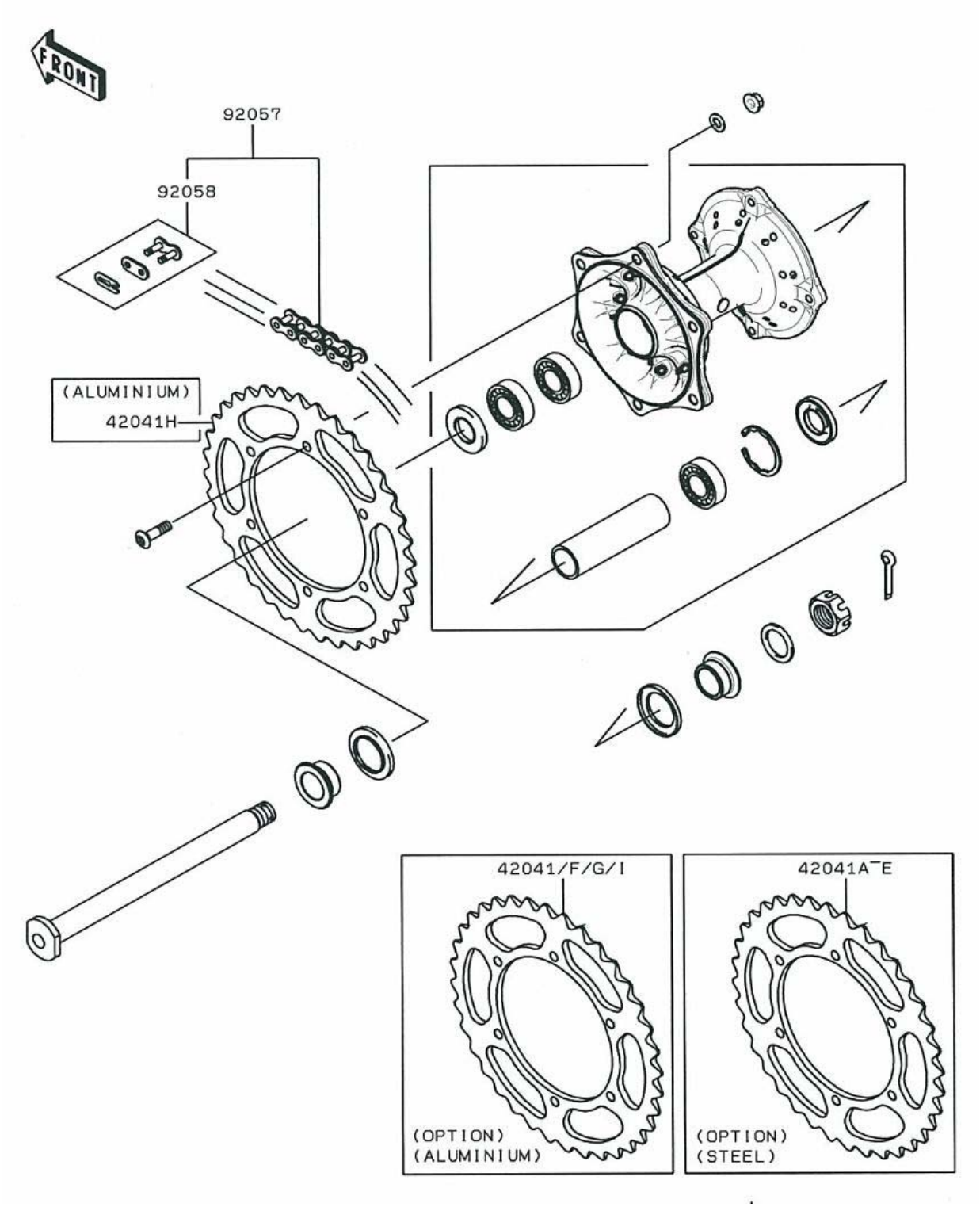
Rear hub & chain

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Chain	92057-0191	92057-0192	From 112LINK to 114LINK	○			○ S
Sprocket	42041-1448	42041-1449	From AL48T to AL49T (EU/BR)	○			○ S



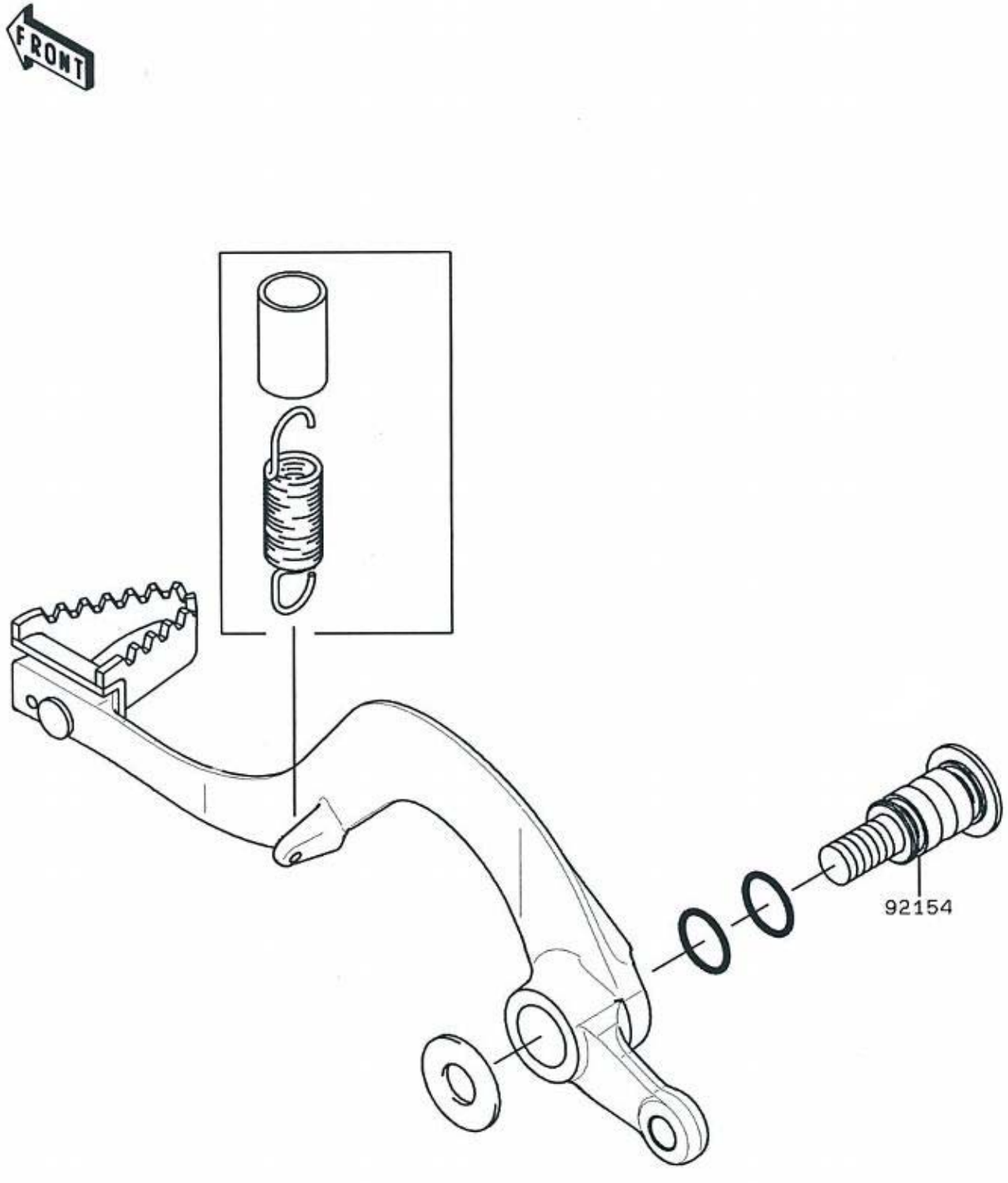
Pedal

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bolt, M10	92153-0974	92154-0516	The surface treatment has been changed.			○	○



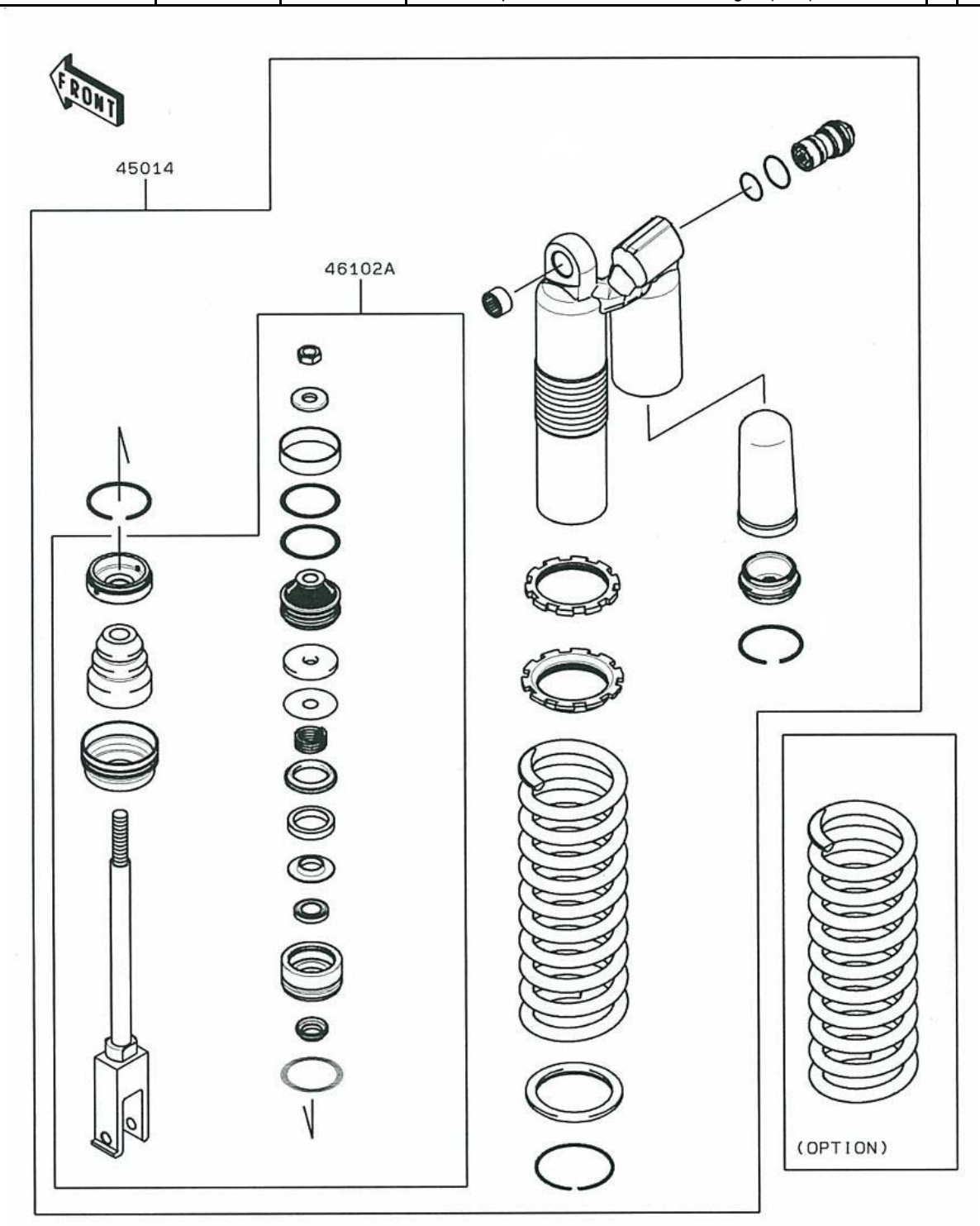
Shock absorber

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Shock absorber	45014-0303	45014-0309	The valve specifications and comp ADJ alumite color have been changed (JPN).	○			○
Rod	46102-0145	46102-0159	The valve specifications have been changed (JPN).	○			○



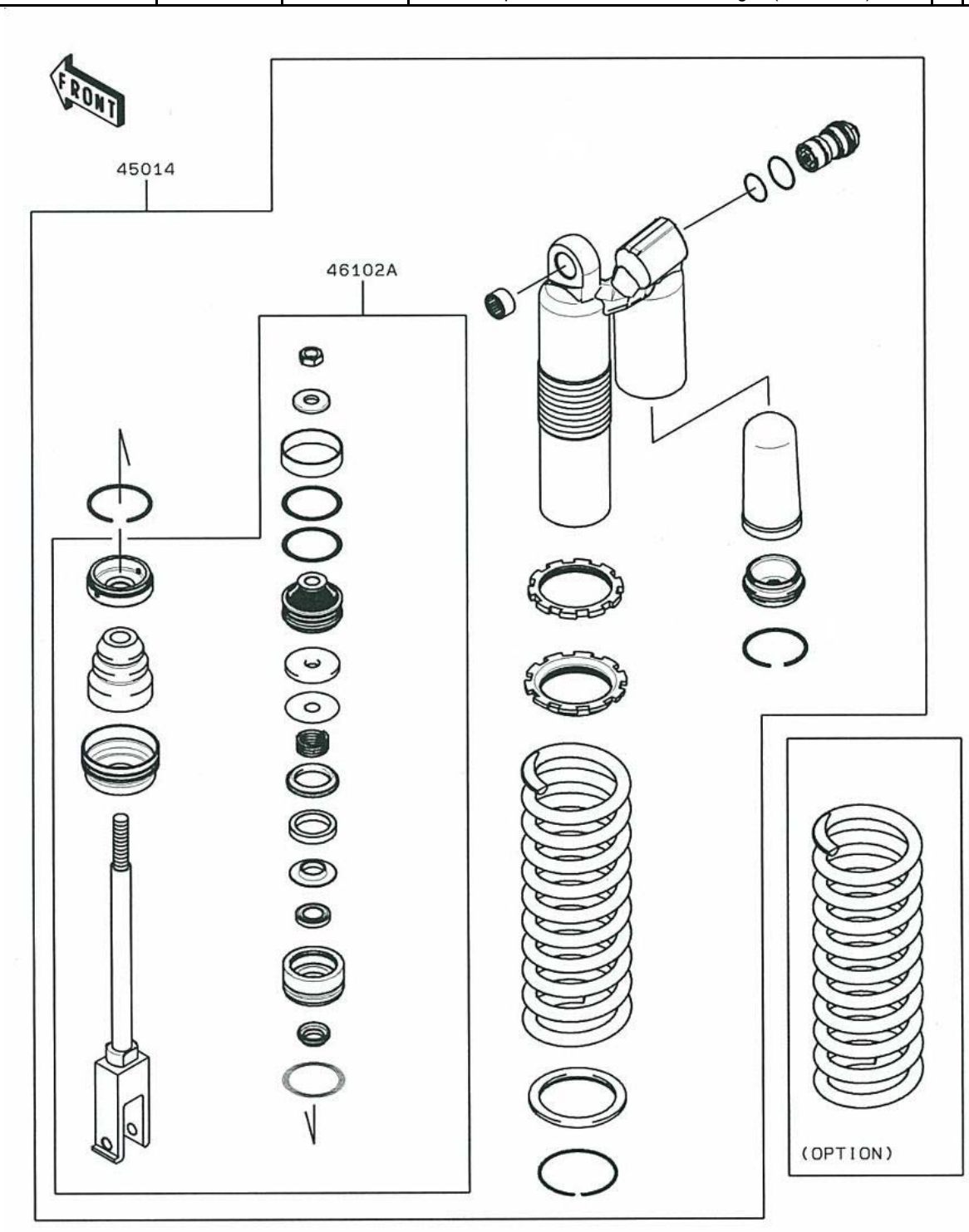
Shock absorber

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Shock absorber	45014-0280	45014-0309	The valve specifications and comp ADJ alumite color have been changed (US/CN/AU).	○			○
Rod	46102-0145	46102-0159	The valve specifications have been changed (US/CN/AU).	○			○



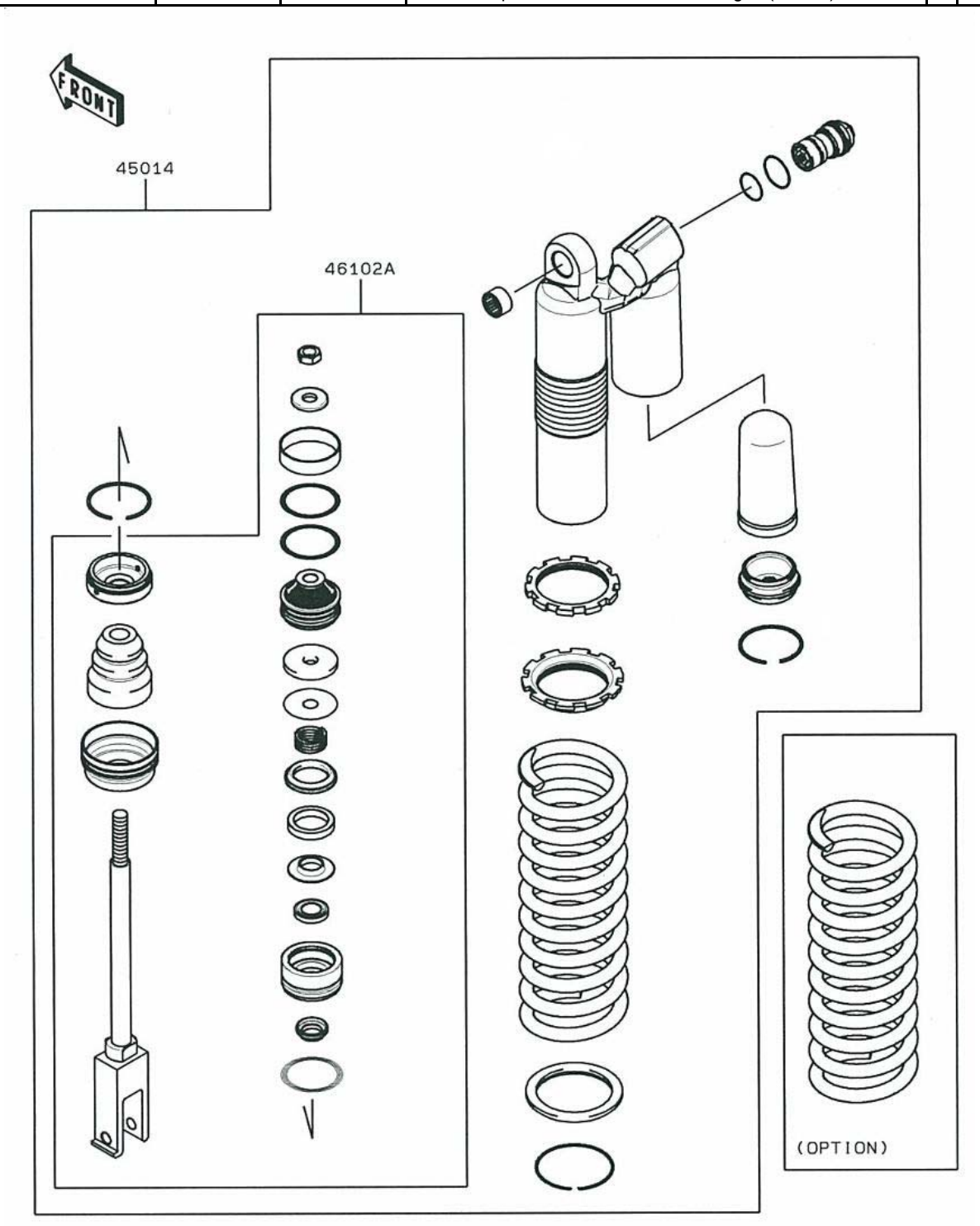
Shock absorber

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Shock absorber	45014-0304	45014-0330	The valve specifications and comp ADJ alumite color have been changed (EU/BR).	○			○
Rod	46102-0152	46102-0159	The valve specifications have been changed (EU/BR).	○			○



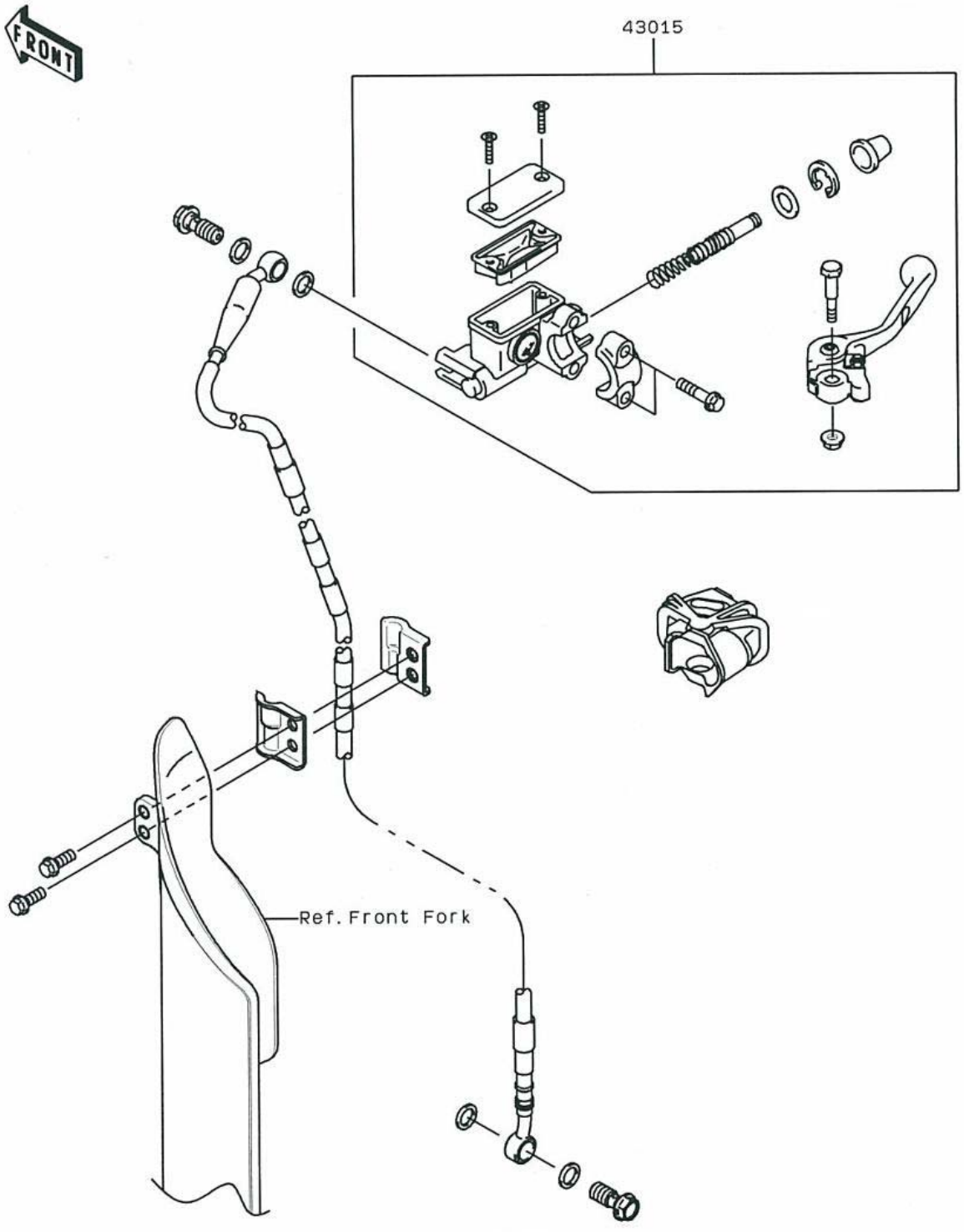
Front master cylinder

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Cylinder (master)	43015-0155	43015-0167	The body anticorrosion treatment has been changed.			○	○



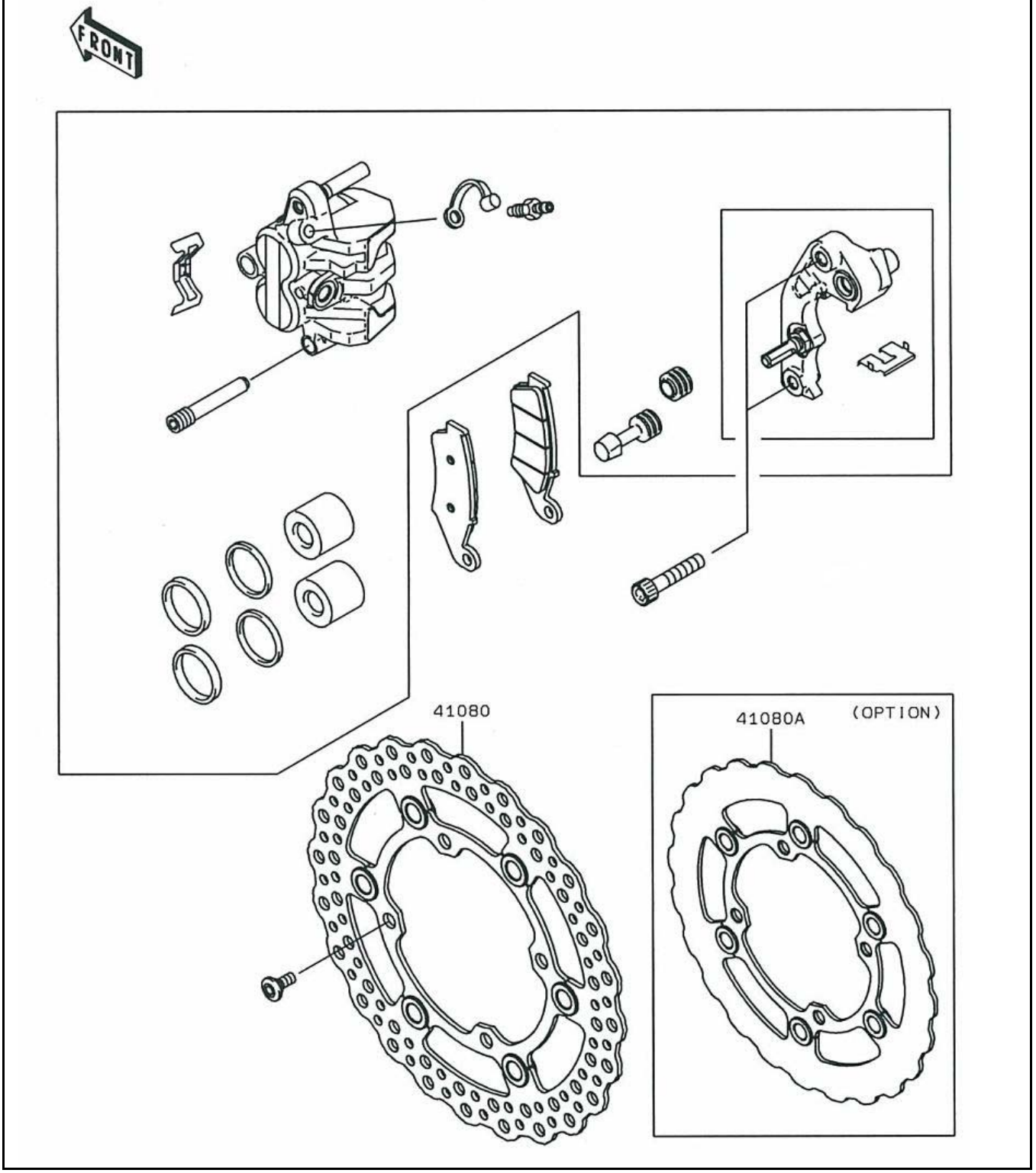
Front brake

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Disc	41080-0090	41080-0192	Reshaped, outer shape			○	○
Disc (optional)	41080-0082	41080-0193	↑			○	○



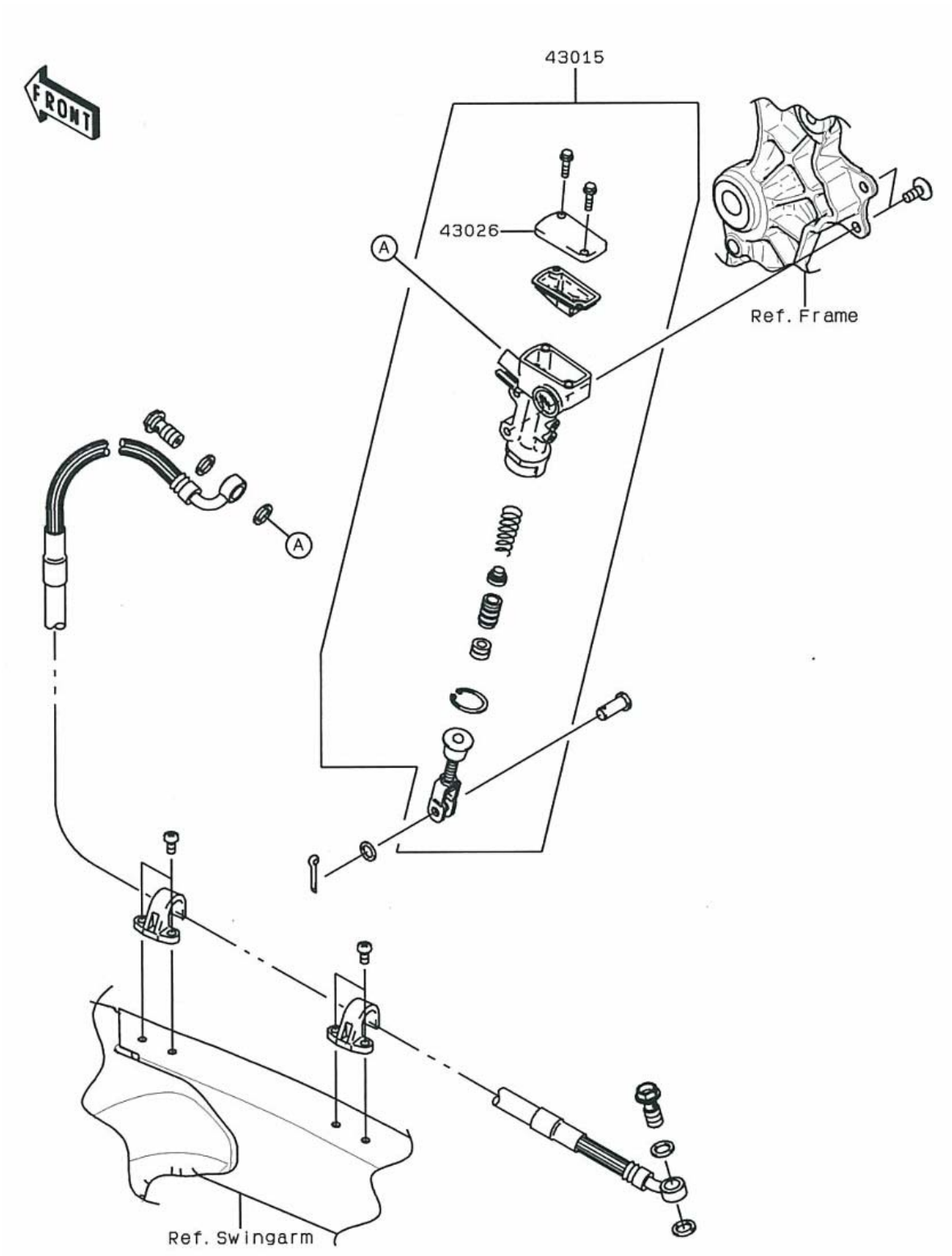
Rear master cylinder

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Cylinder assembly (master)	43015-0142	43015-0168	The cap anticorrosion treatment has been changed.			○	○
Cap (brake)	43026-0008	43026-0023	↑			○	○



Rear brake

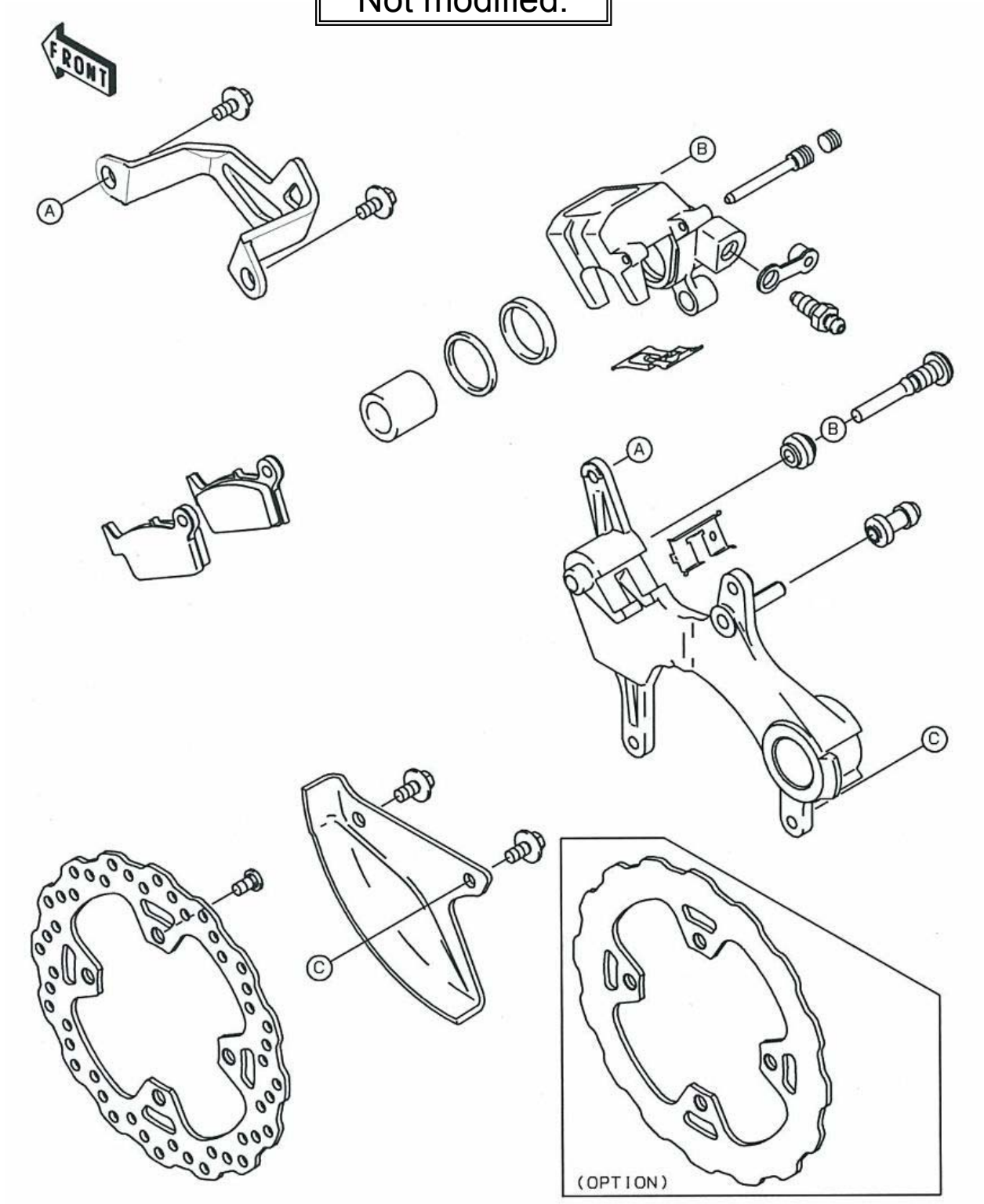
Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change

Not modified.



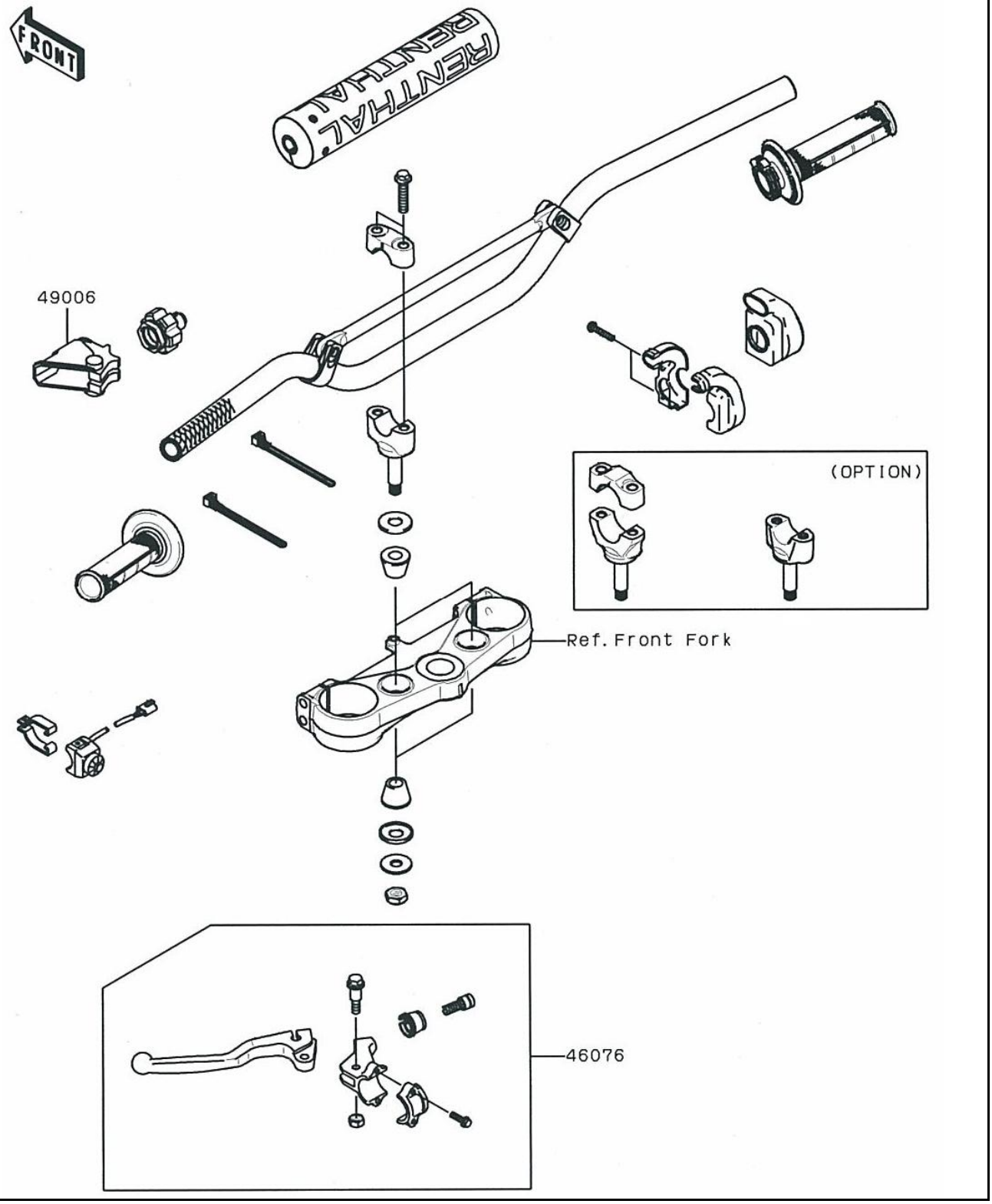
Handlebar

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Lever assembly (grip), clutch	46076-0034	46076-0019	Use of the hot starter lever has been stopped.			○	×
Boots, clutch lever	49006-0033	49006-0030	↑			○	×



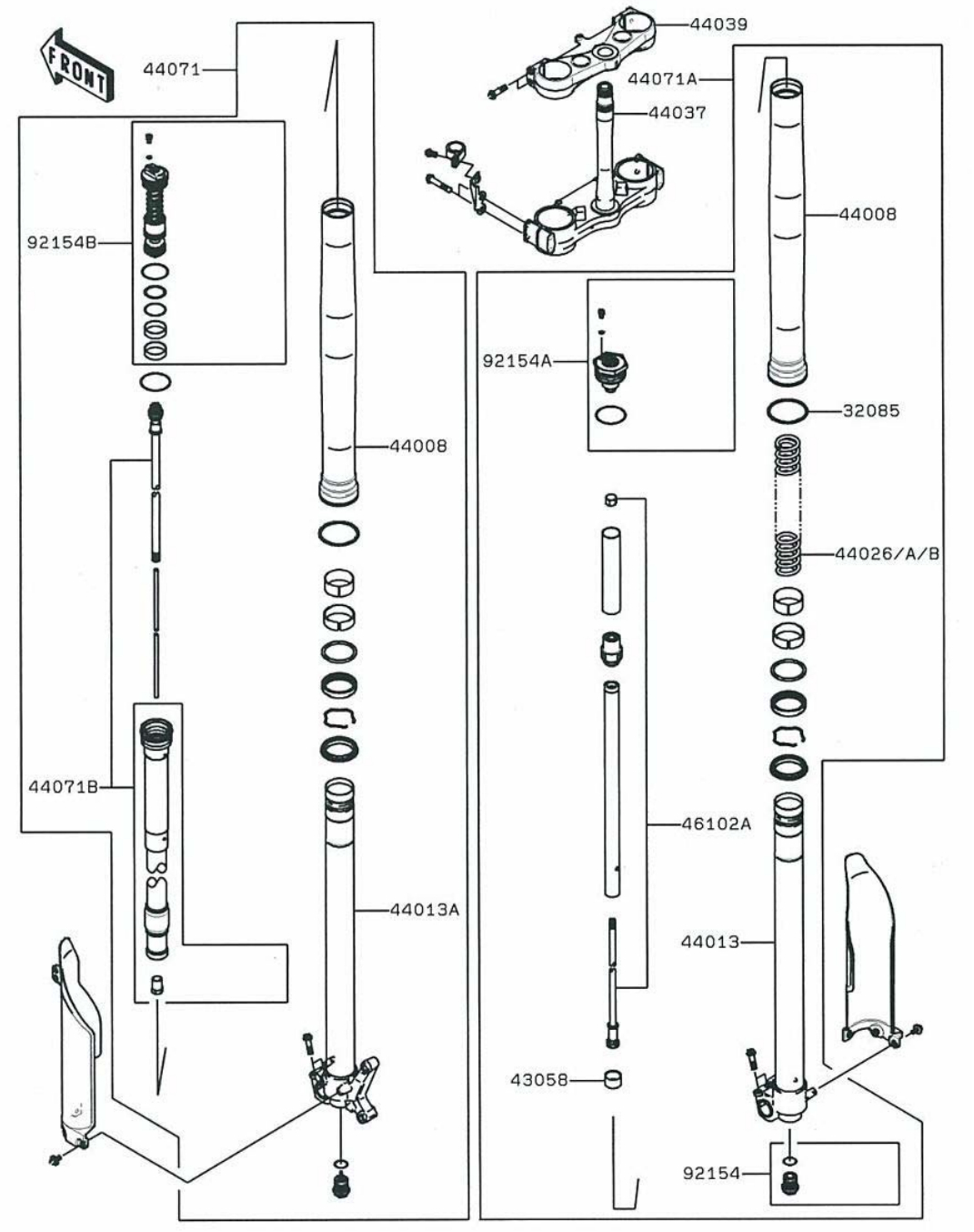
Front fork (1/3)

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

O S: '11→'10 interchangeable as a set
O: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Damper assembly, LH	44071-0647	44071-0746	The structure has been changed (SFF damper leg, JPN).	O			×
Fork bolt comp	92154-0271	92154-0542	The valve specifications have been changed (JPN).	O			×
Damper assembly (cartridge)	44071-0649	44071-0708	↑	O			×
Pipe (fork), outer	44008-0047	44008-0016	The degree of rigidity has been changed.	O			×
Pipe (fork), inner, LH	44013-0147	44013-0165	The structure has been changed (SFF damper leg).	O			×



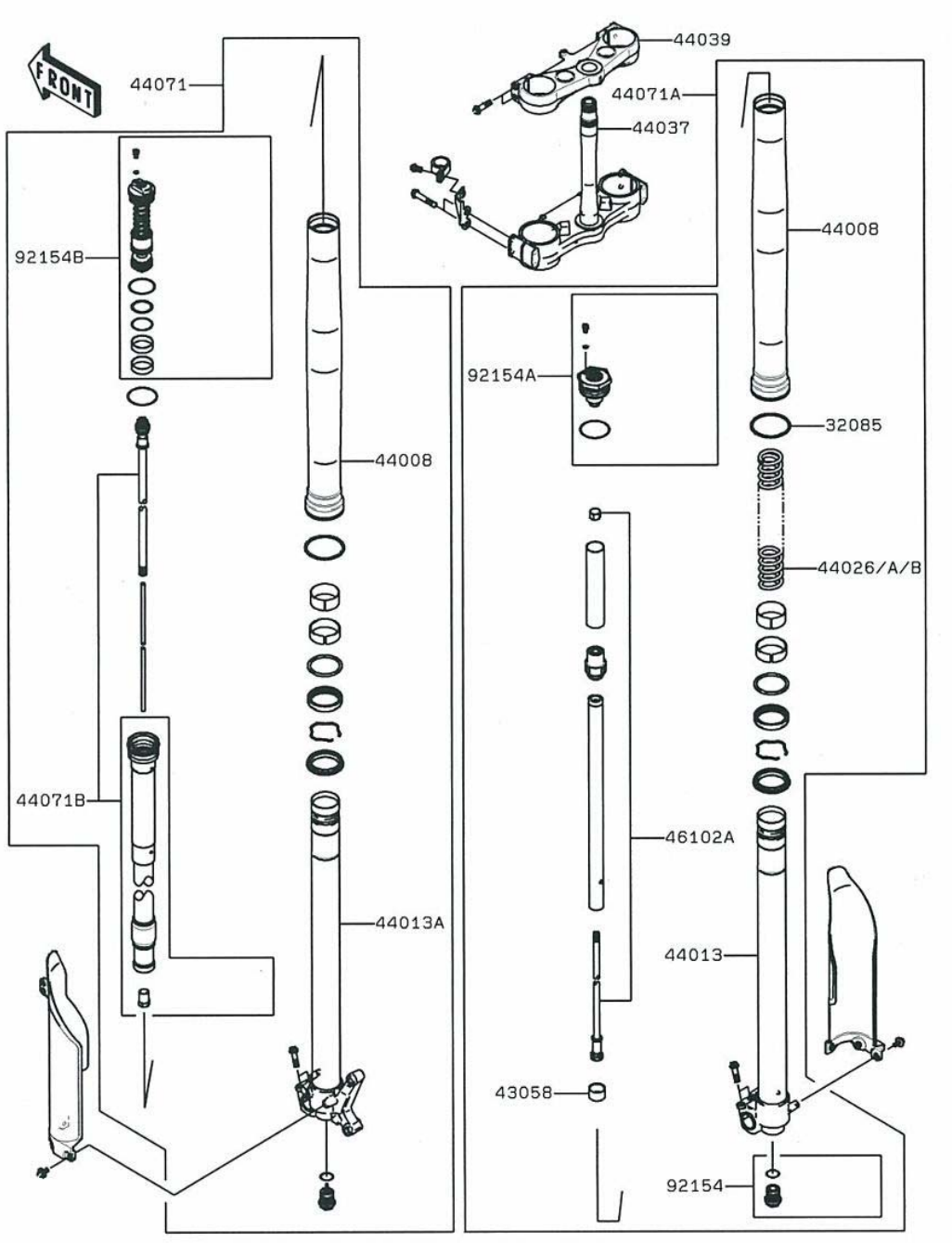
Front fork (1/3)

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Damper assembly, LH	44071-0647	44071-0695	The structure has been changed (SFF damper leg, US/CN/AU).	○			×
Fork bolt comp	92154-0271	92154-0411	The valve specifications have been changed (US/CN/AU).	○			×
Damper assembly (cartridge)	44071-0649	44071-0708	↑	○			×
Pipe (fork), outer	44008-0047	44008-0016	The degree of rigidity has been changed.	○			×
Pipe (fork), inner, LH	44013-0147	44013-0165	The structure has been changed (SFF damper leg).	○			×



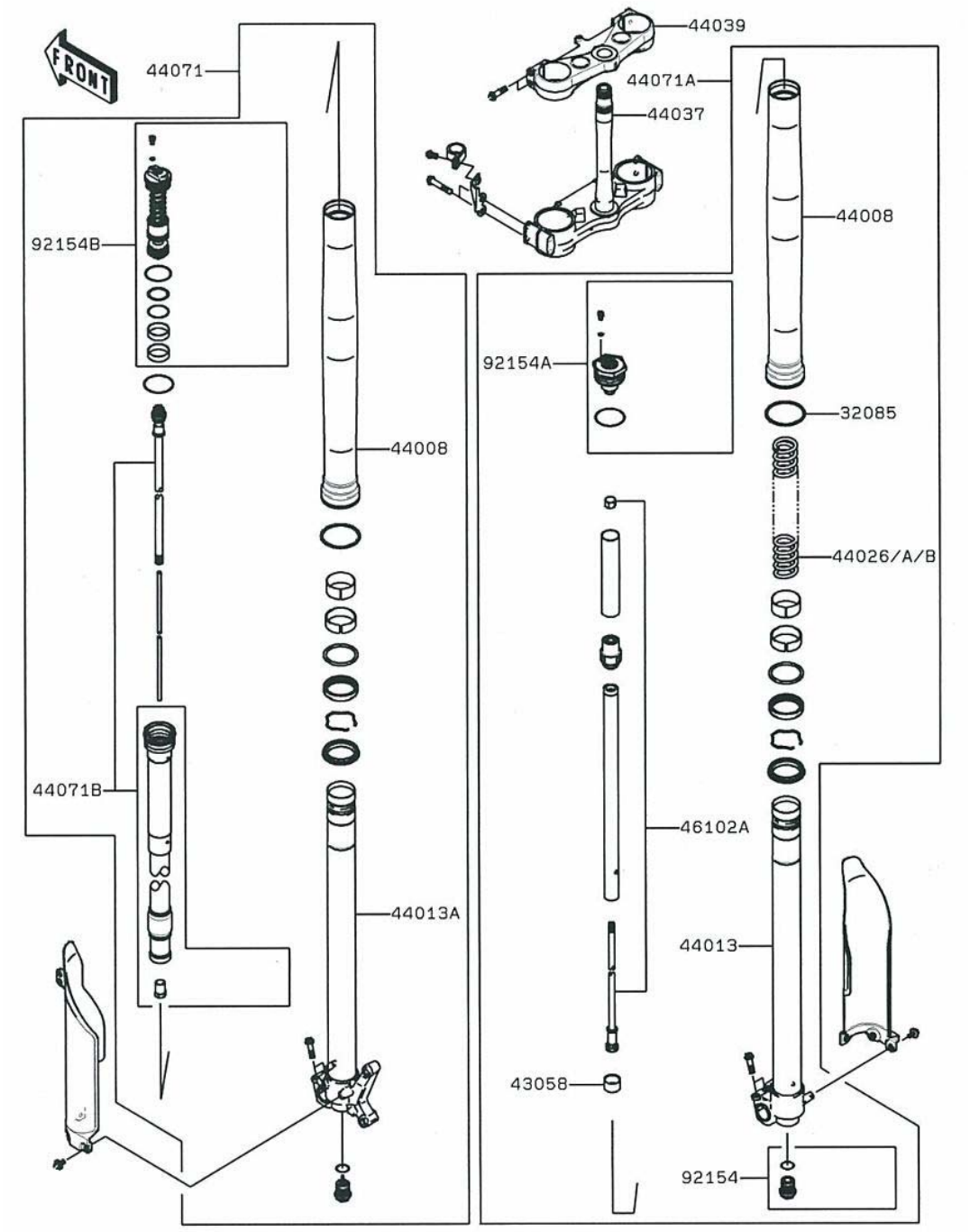
Front fork (1/3)

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

O S: '11→'10 interchangeable as a set
O: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Damper assembly, LH	44071-0691	44071-00744	The structure has been changed (SFF damper leg, EU/BR).	O			×
Fork bolt comp	92154-0371	92154-0549	The valve specifications have been changed (EU/BR).	O			×
Damper assembly (cartridge)	44071-0649	44071-0708	↑	O			×
Pipe (fork), outer	44008-0047	44008-0016	The degree of rigidity has been changed.	O			×
Pipe (fork), inner, LH	44013-0147	44013-0165	The structure has been changed (SFF damper leg).	O			×



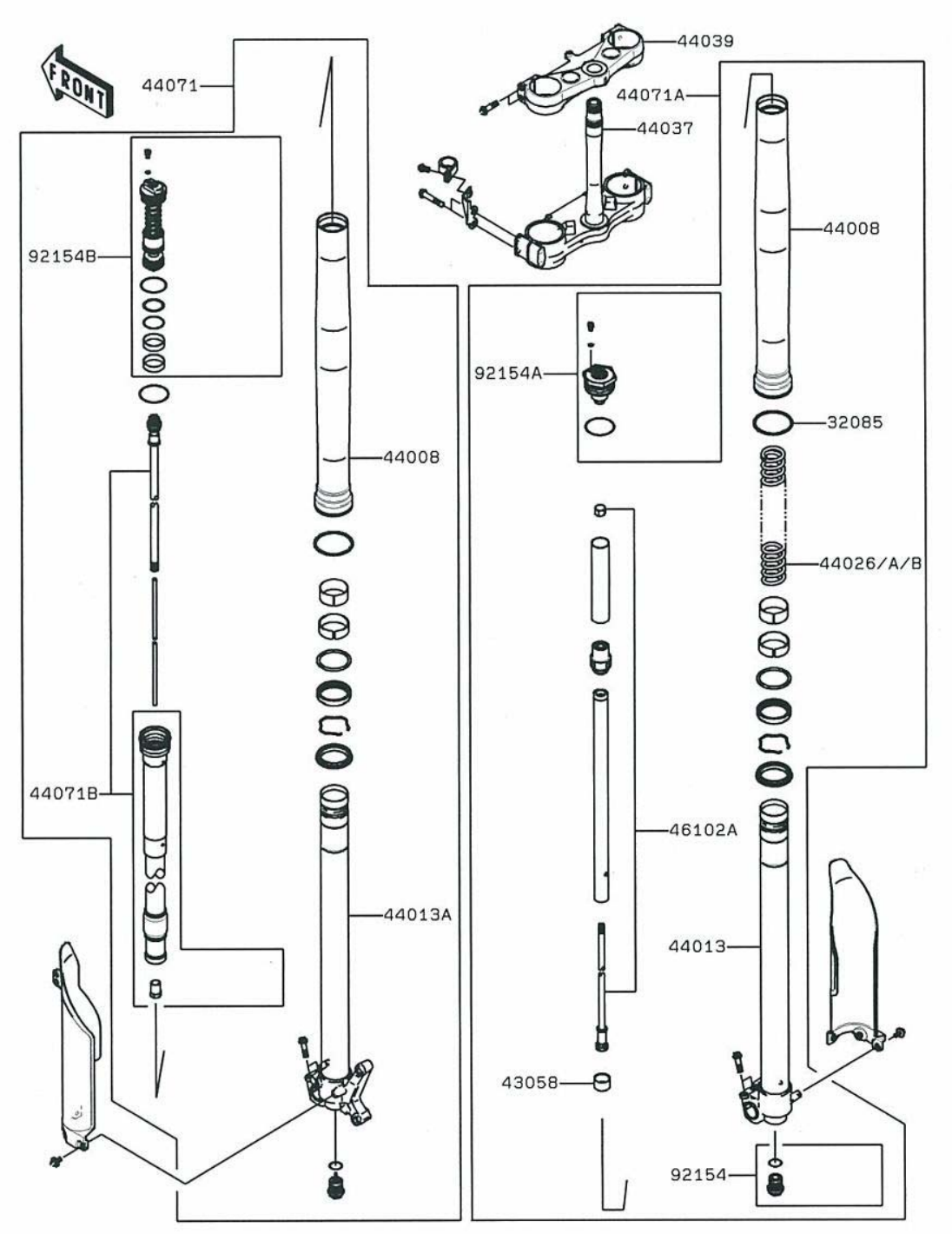
Front fork (2/3)

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Damper assembly, RH	44071-0647	44071-00747	The structure has been changed (SFF spring leg, JPN).	○			×
Bolt, adjust bolt comp	-	92154-0410	The initial adjuster has been added.	○			×
Rod, joint rod comp	-	46102-0153	The structure has been changed (SFF spring leg).	○			×
Ring, centering plate	44008-0047	44008-0016	The degree of rigidity has been changed.	○			×
Pipe (fork), outer	44008-0047	44008-0016	The degree of rigidity has been changed.	○			×
Pipe (fork), inner, RH	44013-0148	44013-0164	The structure has been changed (SFF damper leg).	○			×
Bolt, center bolt comp	-	92154-0409	The structure has been changed (SFF damper leg).	○			×



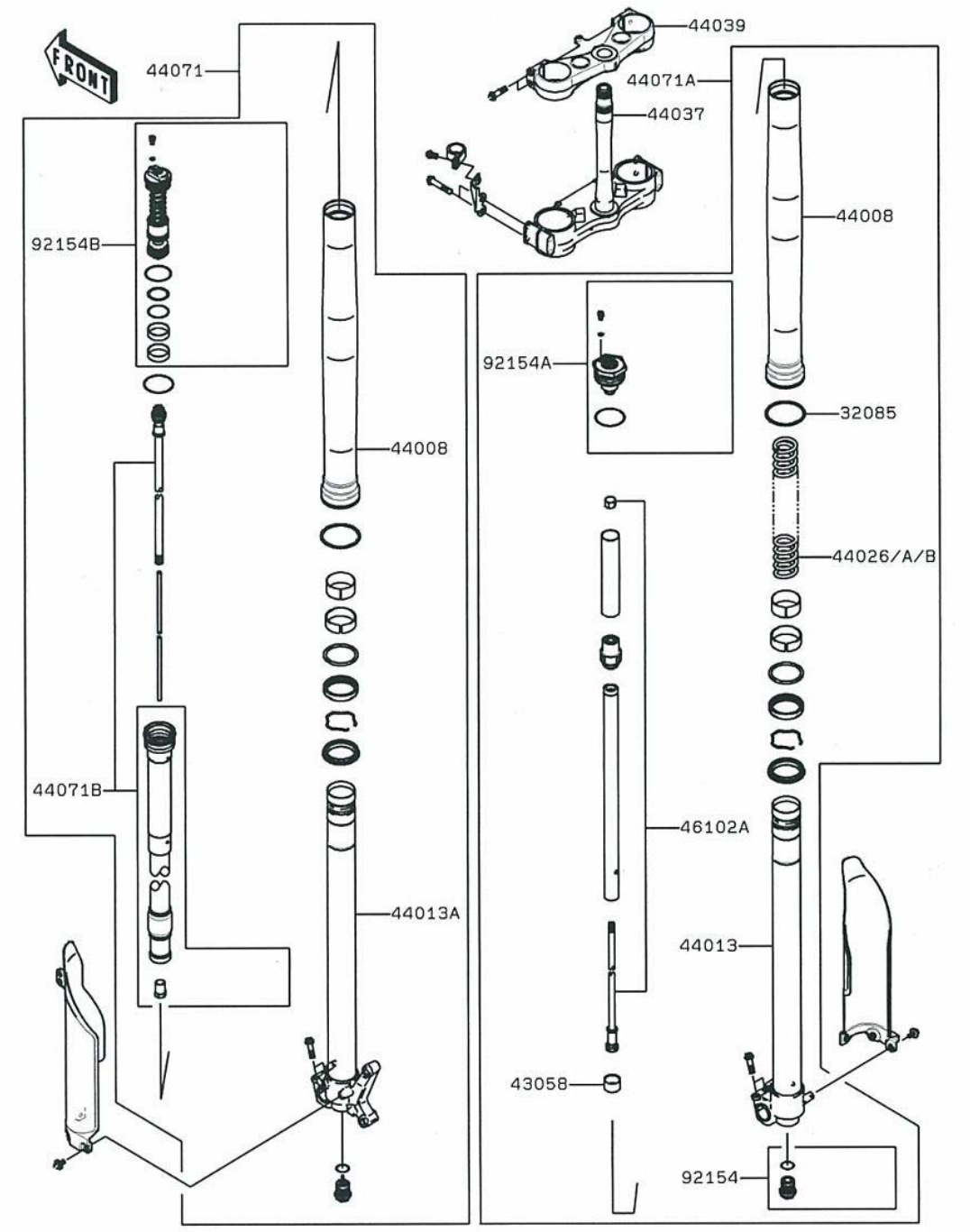
Front fork (2/3)

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Damper assembly, RH	44071-0648	44071-0696	The structure has been changed (SFF spring leg, US/CN/AU).	○			×
Bolt, adjust bolt comp	-	92154-0410	The initial adjuster has been added.	○			×
Rod, joint rod comp	-	46102-0153	The structure has been changed (SFF spring leg).	○			×
Ring, centering plate	44008-0047	44008-0016	The degree of rigidity has been changed.	○			×
Pipe (fork), outer	44008-0047	44008-0016	The degree of rigidity has been changed.	○			×
Pipe (fork), inner, RH	44013-0148	44013-0164	The structure has been changed (SFF damper leg).	○			×
Bolt, center bolt comp	-	92154-0409	The structure has been changed (SFF damper leg).	○			×



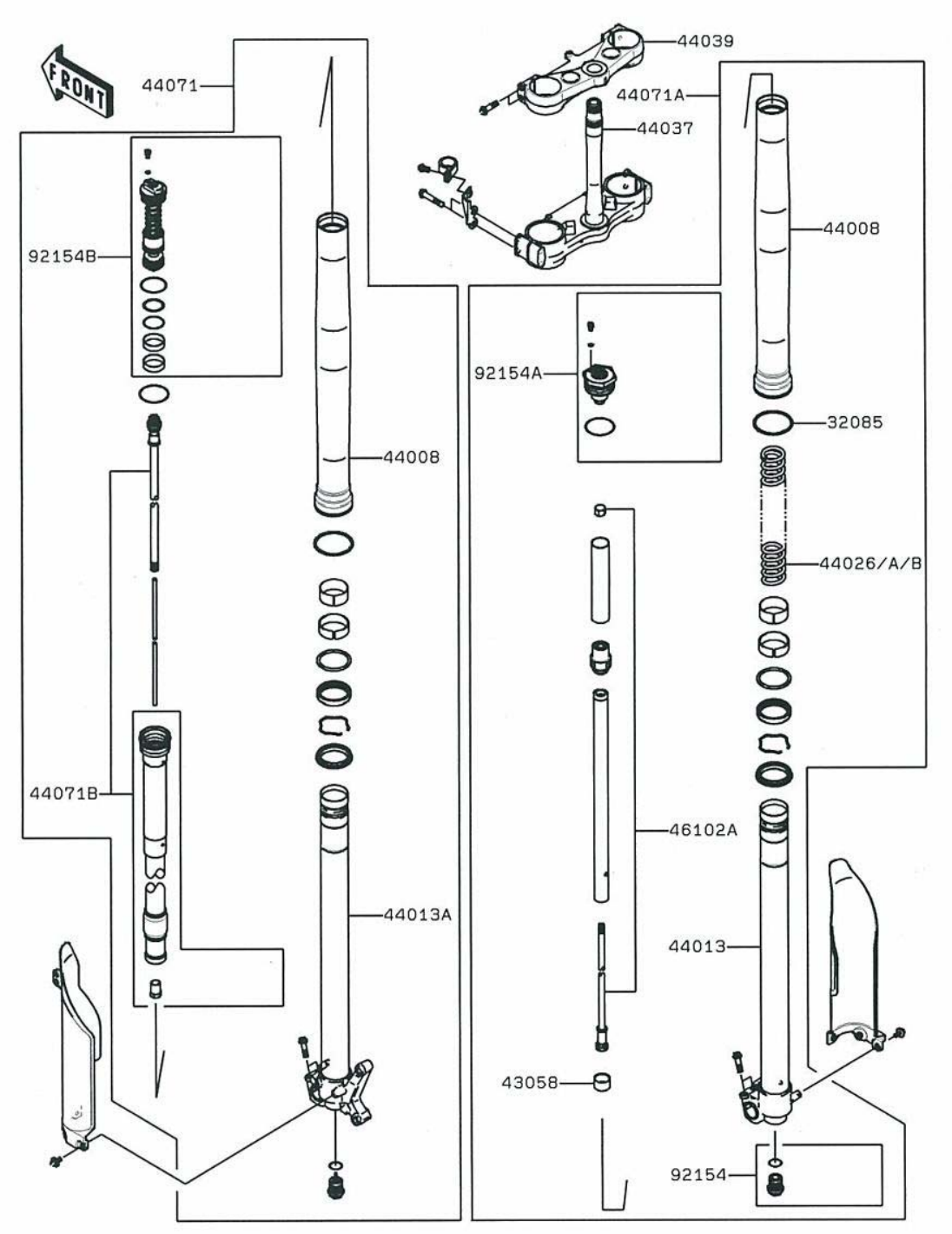
Front fork (2/3)

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Damper assembly, RH	44071-0692	44071-0745	The structure has been changed (SFF spring leg, EU/BR).	○			×
Bolt, adjust bolt comp	-	92154-0410	The initial adjuster has been added.	○			×
Rod, joint rod comp	-	46102-0153	The structure has been changed (SFF spring leg).	○			×
Ring, centering plate	44008-0047	44008-0016	The degree of rigidity has been changed.	○			×
Pipe (fork), outer	44008-0047	44008-0016	The degree of rigidity has been changed.	○			×
Pipe (fork), inner, RH	44013-0148	44013-0164	The structure has been changed (SFF damper leg).	○			×
Bolt, center bolt comp	-	92154-0409	The structure has been changed (SFF damper leg).	○			×



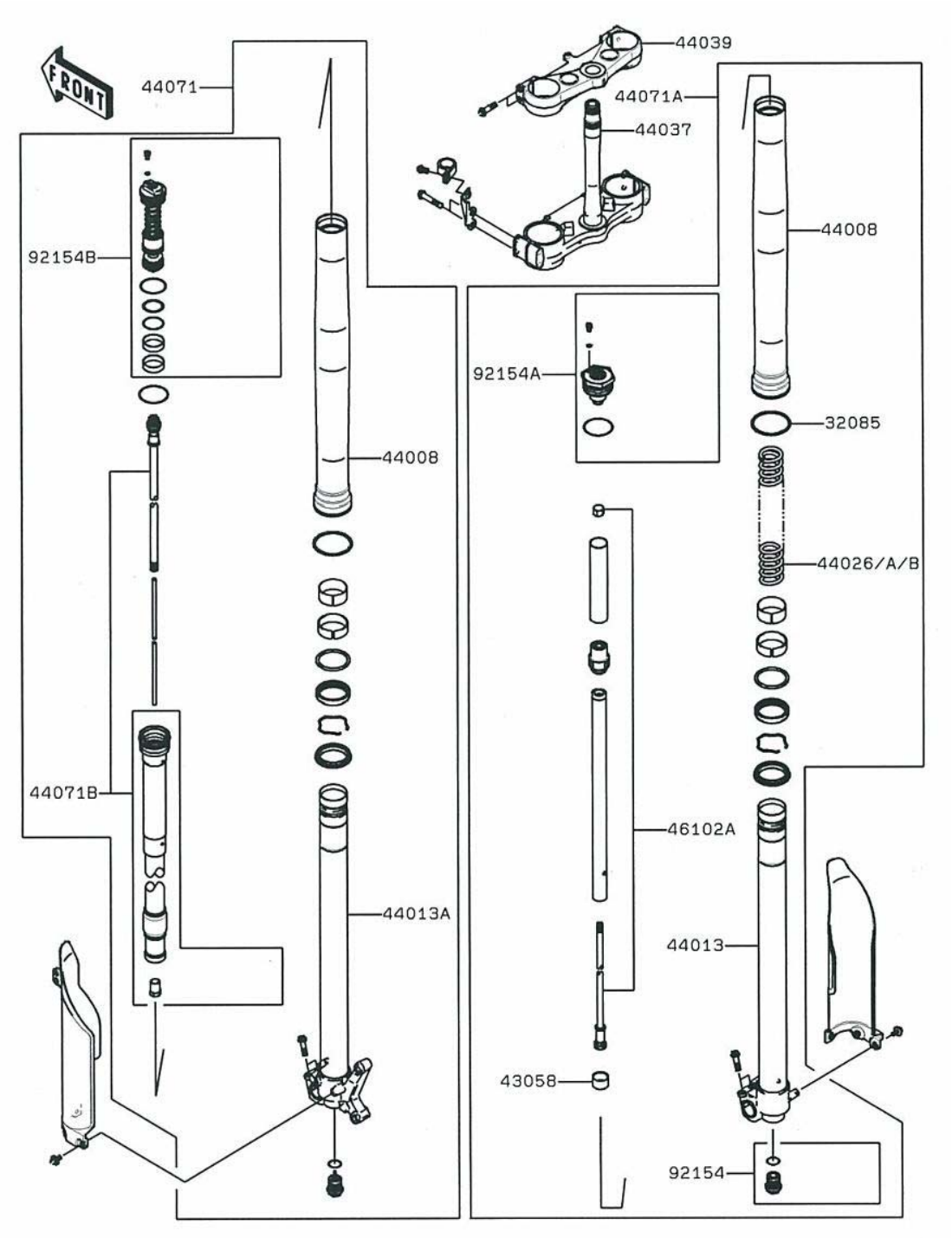
Front fork (3/3)

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Holder (fork), upper	44039-0079	44039-0103	The fork offset has been changed.: From 23.5 to 22.5	○			×
Holder (fork), under	-	92154-0410	↑	○			×
Bolt, upper holder	92153-1399	92154-0463	The surface treatment has been changed.	○			×
Bolt, under holder	92153-0990	92154-0464	↑	○			×



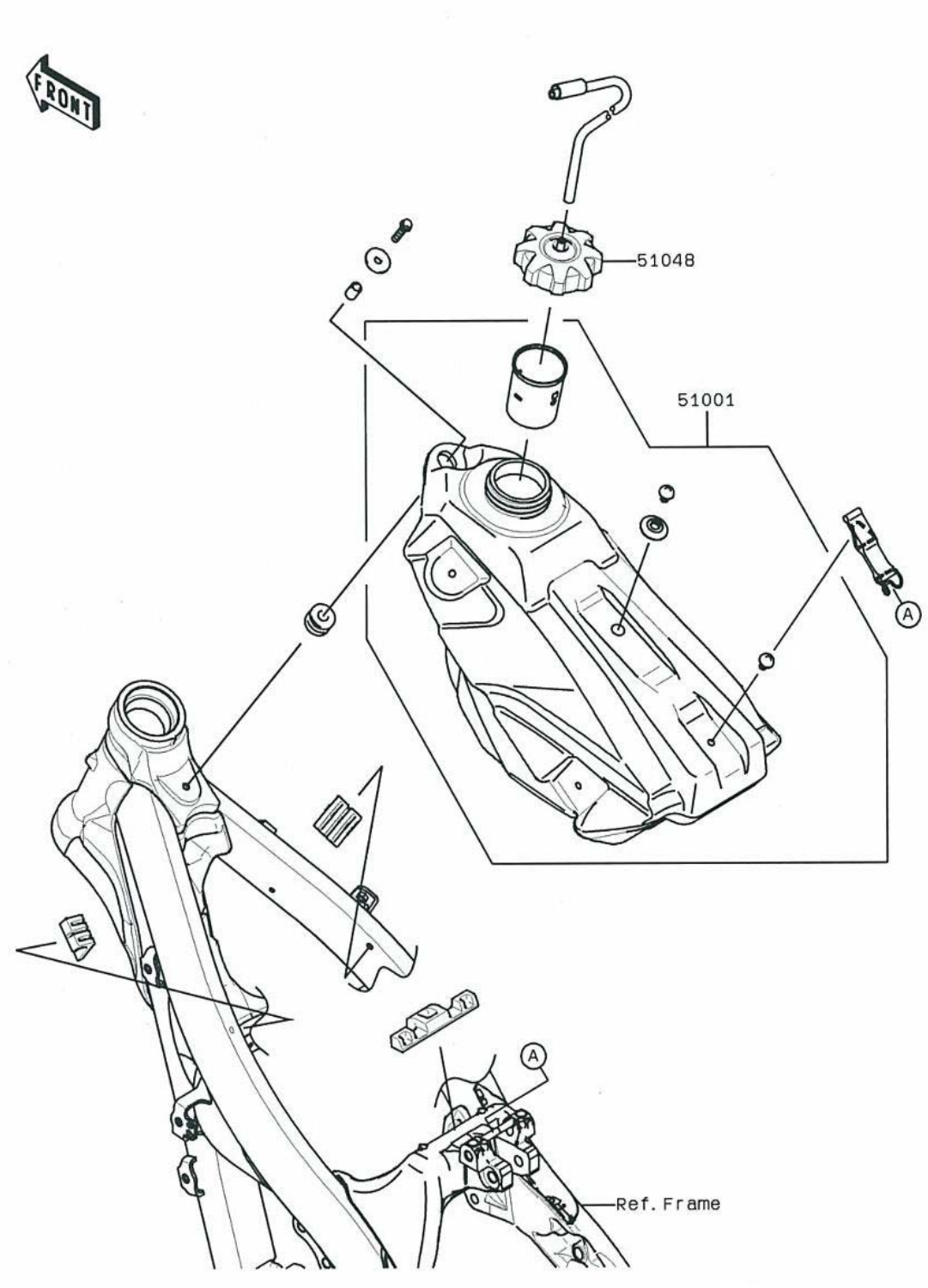
Fuel tank

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Tank comp (fuel)	51001-0262	51001-0305	Redesigned parts for FI system			○	×
Cap assembly	51048-0009	51048-0031	Use of new design and mechanism			○	×



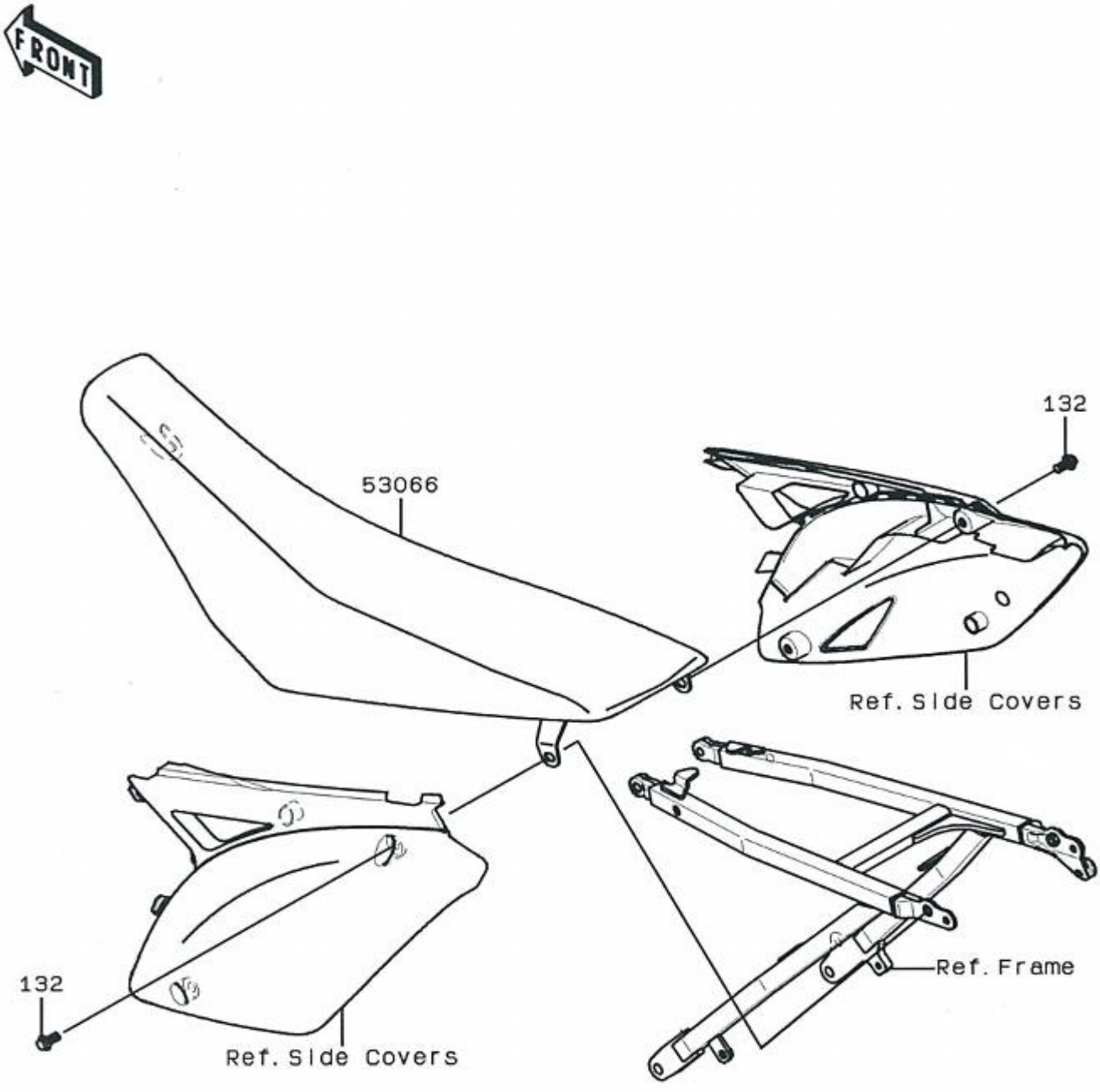
Seat

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Seat assembly	53066-0244	53066-0279	The side leather pattern has been changed.	○			○
Bolt, M8	92153-1308	132BA0816	The surface treatment has been changed.			○	○



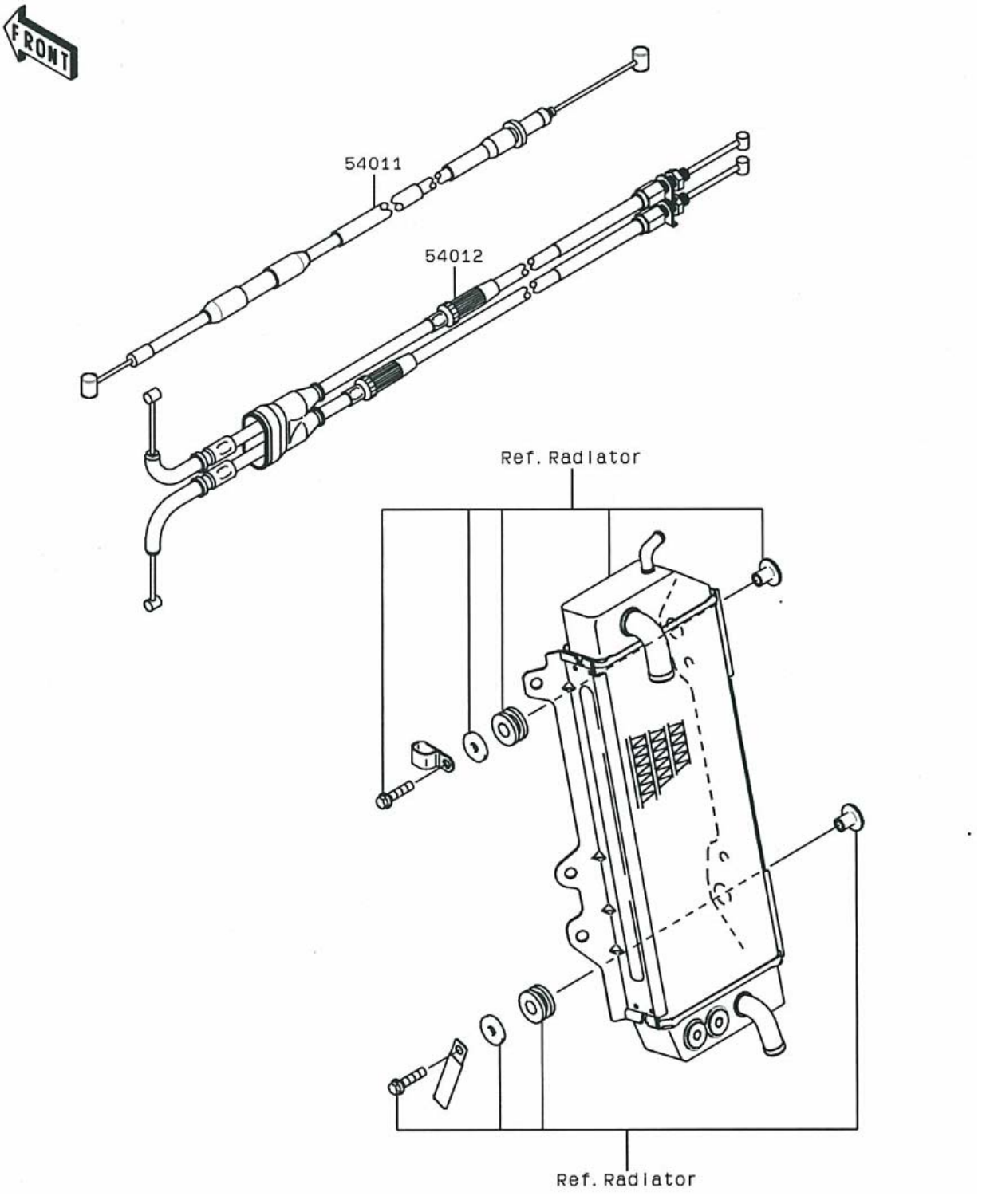
Cables

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Cable (clutch)	54011-0087	54011-0096	The inner cable length has been changed, -8 mm			○	×
Cable (throttle)	54012-0265	54012-0286	The overall length has been changed and the protector has been added.			○	×
Cable (starter)	54017-0014	-	Disused.			○	-



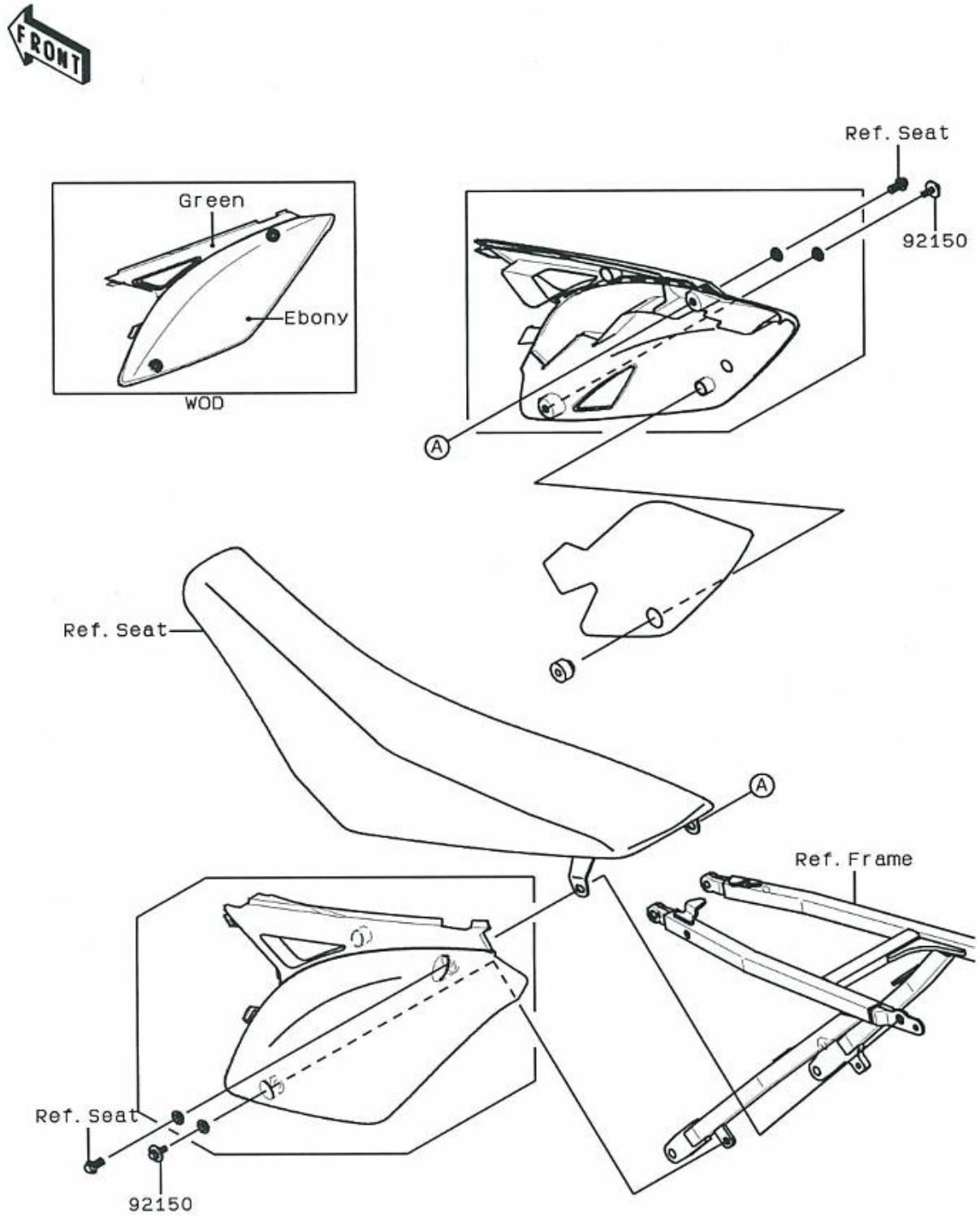
Side cover

Modifications from '10 KX250XAF to '11 KX250YBF

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Frame	KX250Y

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bolt, M6	92153-0863	92150-1506	The surface treatment has been changed.			○	○



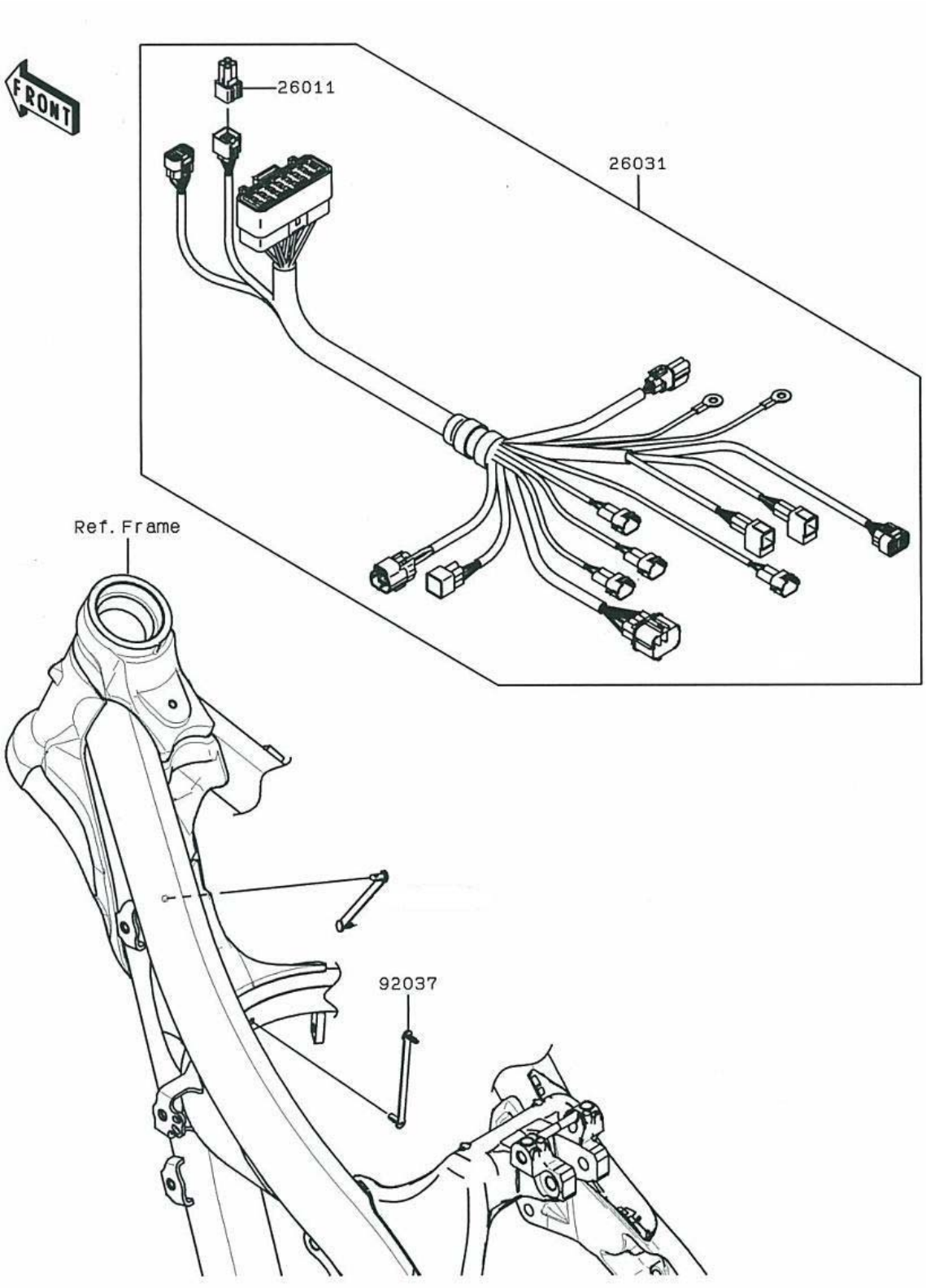
Harness

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Harness, main	26031-0755	26031-0912	Modified due to employment of FI system			○	×
Clamp	-	92037-1163	Added.			○	×



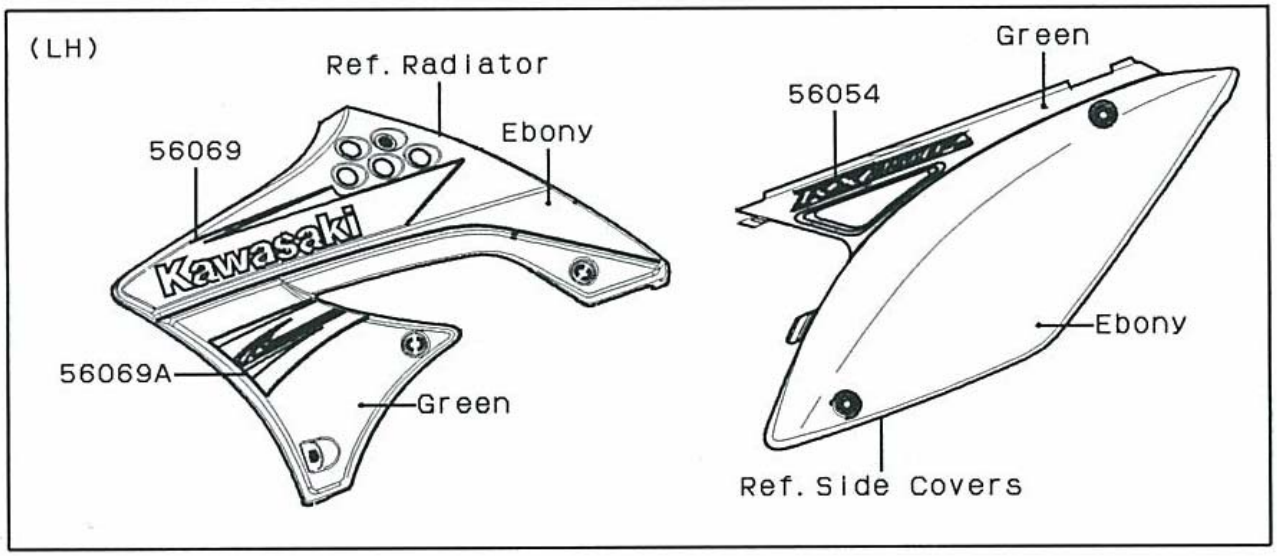
Decals

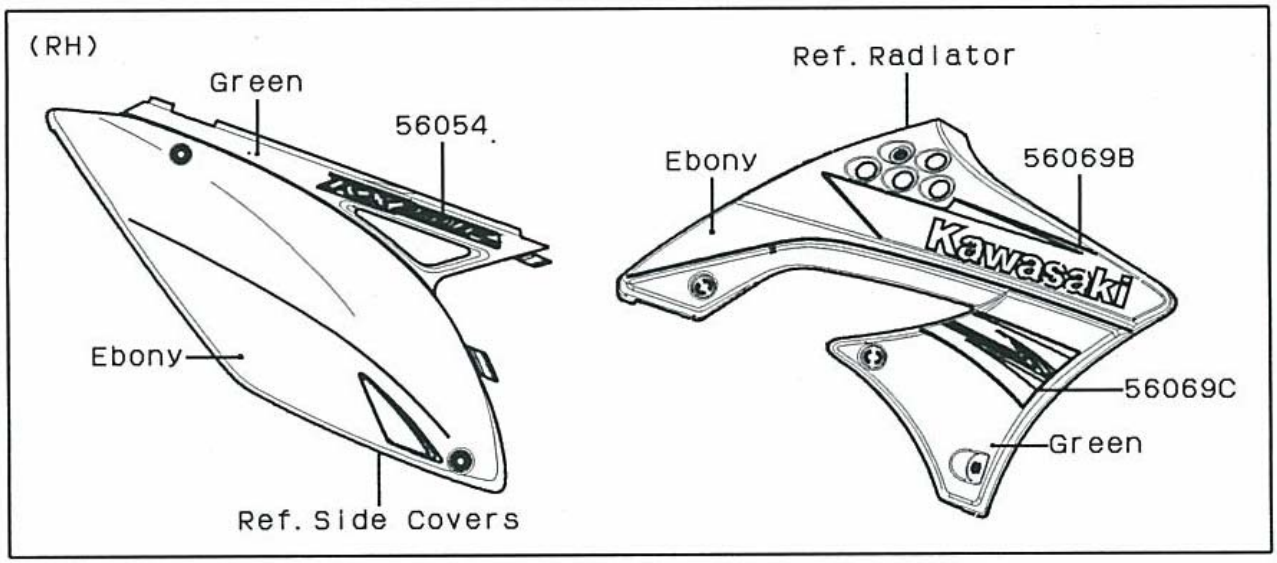
Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Pattern, shroud, upper, L	56054-0466	56069-0898	New graphics			○	×
Pattern, shroud, lower, L	56069-0036	56069-0899	↑			○	×
Pattern, shroud, upper, R	56054-0466	56069-0900	↑			○	×
Pattern, shroud, lower, R	56069-0037	56069-0901	↑			○	×
Mark, side cover	56054-0589	56054-0695	↑			○	×





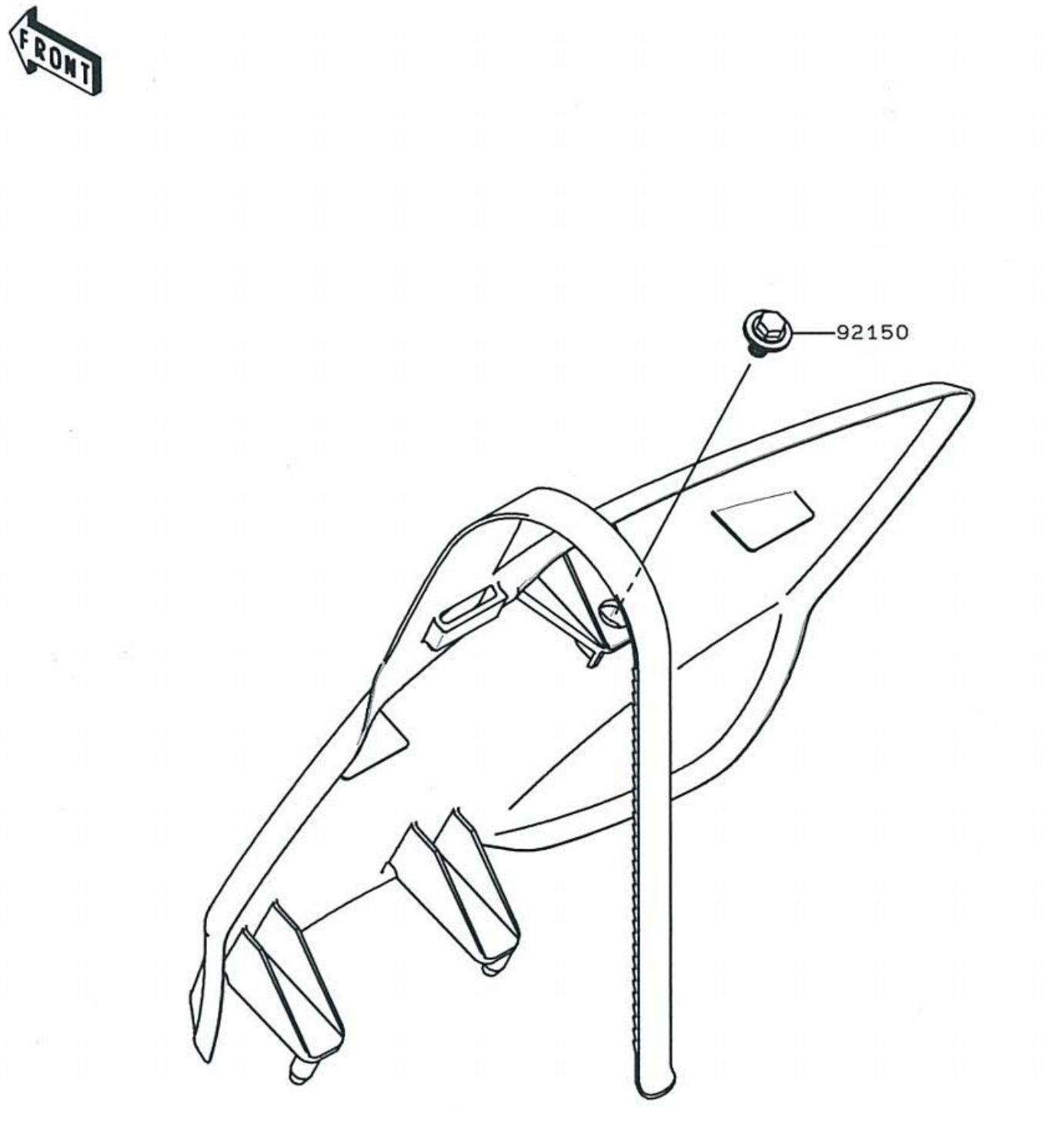
Accessories

Modifications from '10 KX250XAF to '11 KX250YBF

Frame	KX250Y

○ S: '11→'10 interchangeable as a set
○: '11→'10 interchangeable
3: Others
2: Reliability improvement
1: Performance improvement

Part name	'10 part #	'11 part #	Modifications	1	2	3	Inter-change
Bolt, M6	92153-0503	92150-1435	The surface treatment has been changed.			○	○



Suspension Specifications (Standard)

1. Front fork

1-1. Fork extrusion amount

Japanese model	United States model	European model
7 mm	←	←

1-2. Spring settings

	Japanese model	United States model	European model
Spring rate (N/mm)	K = 9.1 (RH)	←	←
Initial adjustment	MIN +24-click, total 60-click adjustment	MIN +22-click, total 60-click adjustment	MIN +28-click, total 60-click adjustment
Initial setting (mm)	2.5 mm	2.2 mm	3.2 mm

1-3. Damping force adjustment

	Japanese model	United States model	European model
Rebound (tension) damping	10-click return, total 20-click damping force adjustment	←	12-click return, total 20-click damping force adjustment
Compression side	7-click return, total 22-click damping force adjustment	←	9-click return, total 22-click damping force adjustment

1-4. Volume of hydraulic oil and oil level adjustment range

- Inside of damper comp

	Japanese model	United States model	European model
Oil amount (cm^3)	260	←	←
Oil level adjusting range (mm)	115 to 123	←	←

- Outside of damper comp

	Japanese model		United States model	European model
Oil amount (cm^3)	LH: 357	RH: 155	←	←
Oil level adjusting range (cm^3)	342 to 381	130 to 500	←	←

2. Shock absorber

2-1. Spring settings

	Japanese model	United States model	European model
Spring rate (N/mm)	51	←	←
Initial setting (mm)	129.8	←	131.3
Spring free length (mm)	259	←	257.5
Initial adjusting range (mm)	125.8 to 133.8	←	←

2-2. Damping force adjustment

		Japanese model	United States model	European model
Rebound (tension) damping		10-click return, total 22-click damping force adjustment	←	12-click return, total 22-click damping force adjustment
Compression side	High speed	2 turns out*, and 4 turns in total *Counterclockwise from the fully seated position	←	1 turns out*, and 4 turns in total *Counterclockwise from the fully seated position
	Low speed	11-click return, total 19-click damping force adjustment	←	8-click return, total 19-click damping force adjustment

Optional Parts （EU/BR）

1. Wheels
1-1. Front wheel

Part name	Part #
Iron nipple	41032-1077
Wheel subassembly	41090-0114

1-2. Rear wheel

Part name	Part #
Iron nipple	41032-1085
Wheel subassembly	41090-0105

2. Sprocket

Material	Number of teeth	Part #	Material	Number of teeth	Part #
Aluminum	47T	42041-1447	Iron	47T	42041-1382
	48T	42041-1448		48T	42041-1383
	49T (STD)	42041-1449		49T	42041-1384
	50T	42041-1450		50T	42041-1408
	51T	42041-1451		51T	42041-1428

3. Brake disc

	Specs	Part #
Front	No petal disc hole	41080-0193
Rear	↑	41080-0094

4. Springs
4-1. Fork spring

Spring rate (N/mm)	Oil level adjusting range (cm^3)	Standard oil amount (cm^3)	Part #
K = 8.7	130 to 508	155	44026-0156
K = 9.5	130 to 492	155	44026-0157

4-2. Shock spring

Spring rate (N/mm)	Initial adjusting range (mm)	Part #
K = 47	125.8 to 139.3	92145-0464
K = 49	125.8 to 135.8	92145-0465
K = 53	125.8 to 139.5	92145-0466

5. Handle holder

Part name	Specs	Part #
Holder (upper)	For 28.6 mm dia	46012-0020
Holder (lower)	For 28.6 mm dia	46012-0021
Holder (lower)	For 22.2 mm dia	46012-0048

Identifying the KX250Y Suspension Springs

1. Front fork

Part #	Spring rate (N/mm)	Spring length (mm)	Identification slit	'11	
				Standard	Optional
42041-0156	8.7	740	2（45°）	—	○
42041-0152	9.1	740	1	○	—
42041-0157	9.5	740	2(parallel)	—	○

2. Rear shock absorber

Part #	Spring rate (N/mm)	Spring length (mm)	Identification paint	'06		'07 to '11	
				Standard	Optional	Standard	Optional
92145-0464	47	265	Silver	—	—	—	○
92145-0411	48	265	Black	—	○	—	—
92145-0465	49	265	Orange	—	—	—	○
92145-0346	50	265	White	—	○	—	—
92145-0463	51	265	Yellow	—	—	○	—
92145-0321	52	265	Blue	○	—	—	—
92145-0466	53	265	Green	—	—	—	○
92145-0347	54	265	Red	—	○	—	—

6. KX250YBF Suspension Explanatory Material

Suspension Explanatory Material

11M KX250Y

Showa Corporation

Motorcycle Suspension Development Dept.

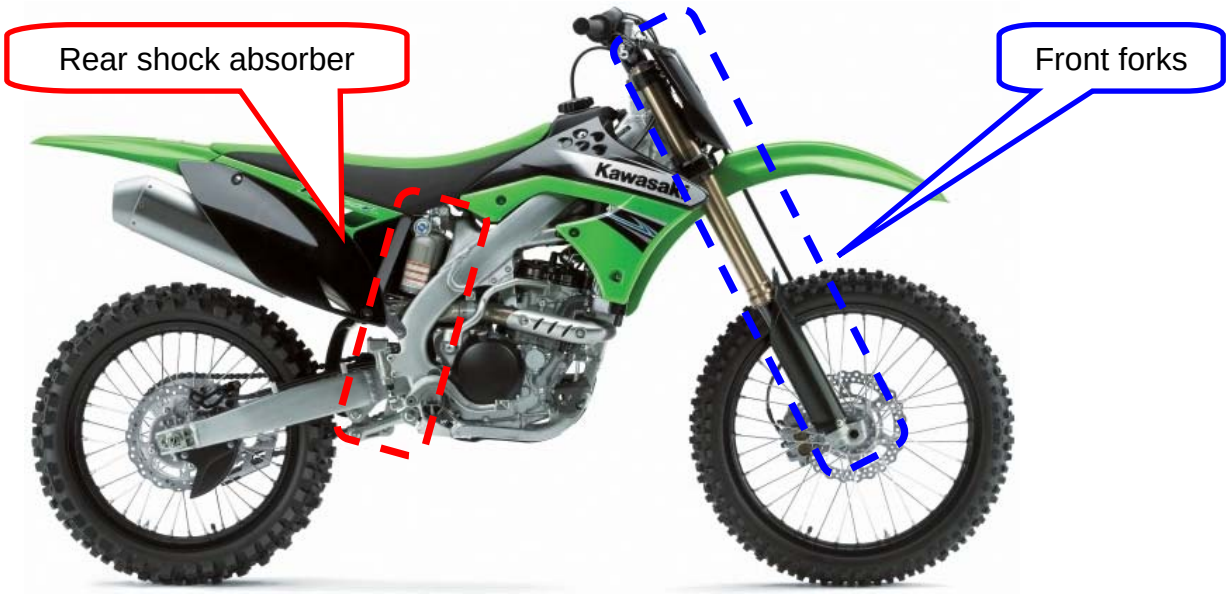
1. Functions of Suspension System

The suspension system (such as front forks and rear shock absorber) of a motorcycle has the following important functions.

(1) Holds the frame of the motorcycle.
(2) Keeps the front and rear wheels in position.
(3) Absorbs mechanical shock.

Functions (1) and (2) are used for enhancement of frame rigidity and for control of the motorcycle position when the suspension system is linked to the motorcycle framework.

Function (3) absorbs mechanical shock from the road and helps the rider maintain control and stability.



2. Features of Suspension System

The suspension system (the front forks and rear shock absorber) consists of the following two system elements:

(1) Spring system, and
(2) Damper system.

The spring system:

- Holds the frame in the appropriate position and absorbs mechanical shock.
- Increases the load (reaction) according to the spring stroke, and prevents the bottom from being hit.
- The front forks have an air chamber and when this air is compressed, a reaction force is generated and the progressive spring characteristics can be obtained.
- The rear shock absorber provides progressive bounce characteristics according to the frame link characteristics.

Note: When the spring is loaded, it temporarily absorbs the energy of this input load. When the load is removed, the spring radiates the absorbed and stored energy (that is, the spring elongates).
If a spring is used alone, vibration of the frame is not absorbed (due to free vibration or other reasons) and frame stability will reduce.
The energy to increase the spring length is controlled by the damper system.

The damper system:

- Controls the spring length. (Damping operation)
- Uses the damping force (pushing process) to absorb additional mechanical shock that cannot be absorbed by the spring system alone.
  ⇒ Mechanical shock is absorbed, and the rider and motorcycle frame are protected from damage.
- Changes the damping force generated by the damper according to the speed of the motorcycle.
- Converts most of the energy absorbed by the damper into heat energy and releases it into the air. (The damper is heated.)

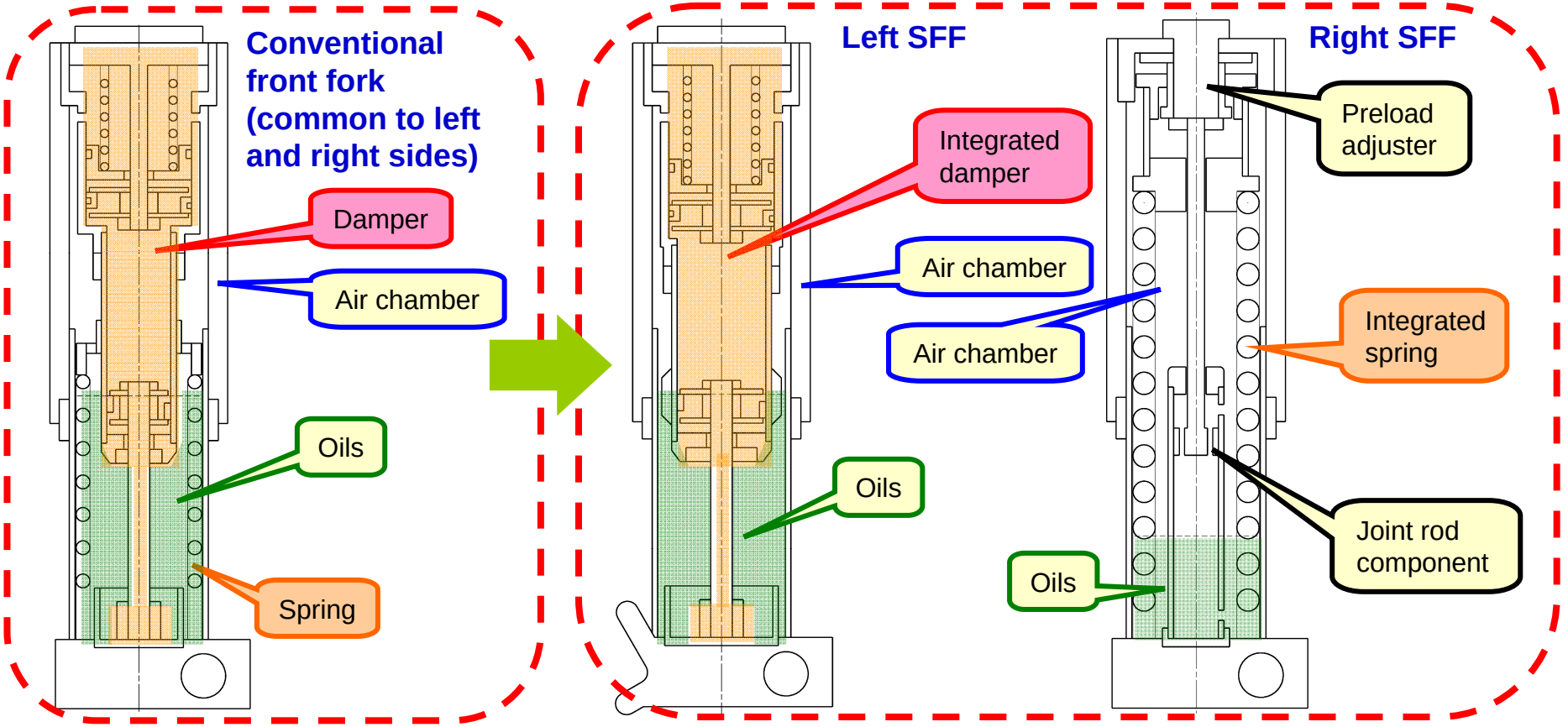
3. Basic Structure of Suspension System

(1) Front forks

- Each front fork consists of a spring, a chamber, and an air damper.
- This model features a SFF(Separate Function front Fork) structure consisting of separated spring and dampers.
- This damper in particular has separate pressure construction that is rigid enough to withstand the large impacts involved in motocross riding or other demanding types of use.

Note: As the SFF structure has the spring at a single side only, it can reduce the sliding friction and improve the riding quality.

Note: The separate pressure construction dampers of the front forks have been developed not only to maintain the constant damping force but also to prevent the damping force from falling due to the mixture of oil and air inside the air chamber.

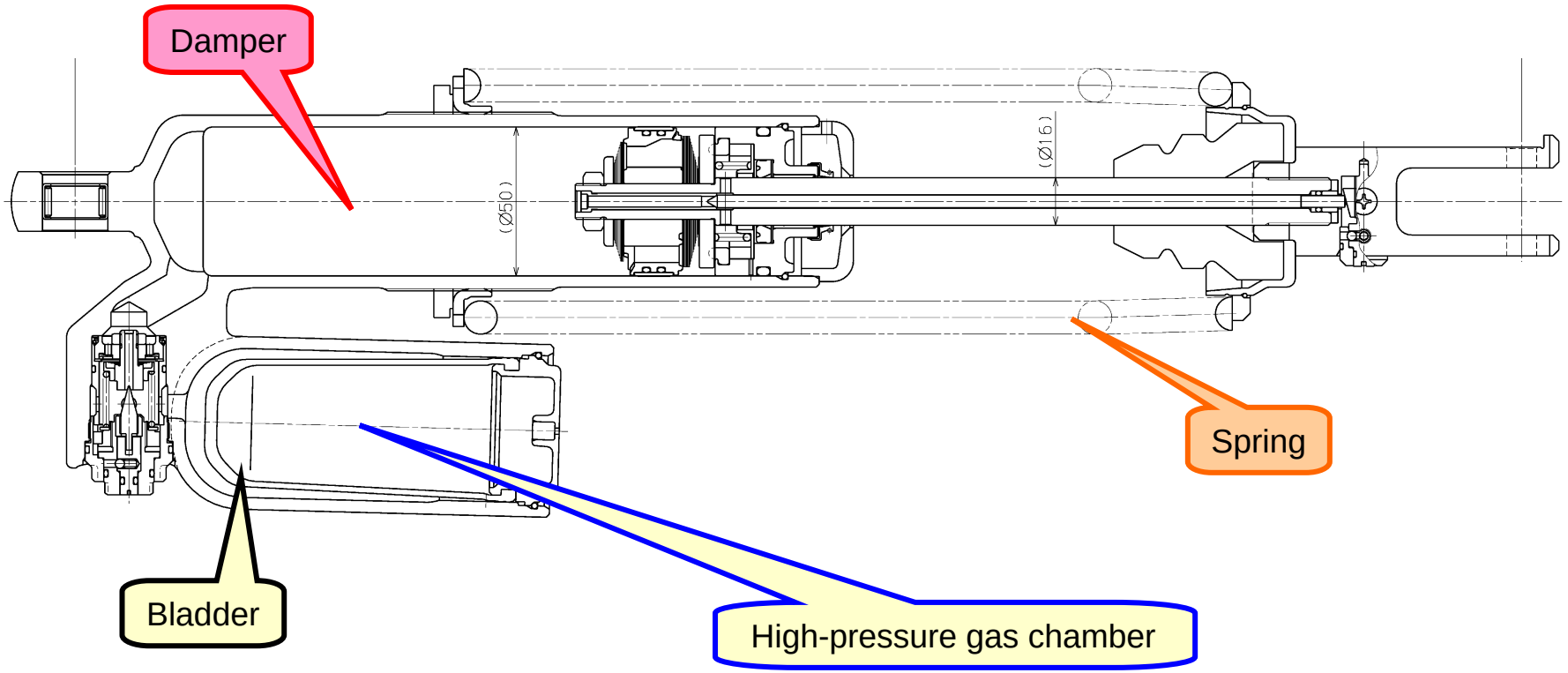


3. Basic Structure of Suspension System

(2) Rear suspension

- The rear suspension system consists of the swingarm and linkage mechanism of the frame, and the rear shock absorber.
- The rear shock absorber consists of the spring and damper.
- For the damper of this model, the air chamber, which is completely separate from the hydraulic oil system, is mounted in the reservoir tank to maintain a stable damping force.

Note: The air chamber is completely separate from the oil due to the bladder. In contrast to the front forks, the bladder chamber is filled with high-pressure nitrogen gas.



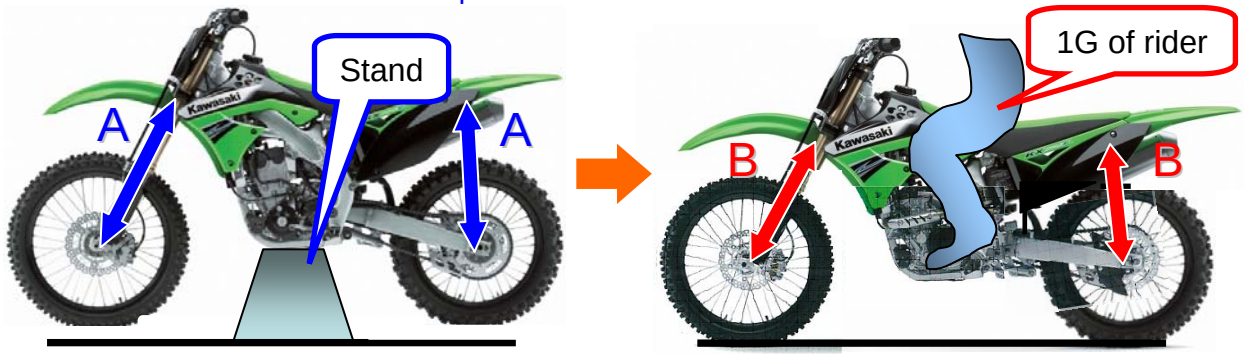
4. Adjustment of Suspension System

(1) Adjusting the sag (1G of rider)

- In order to check the balance between the front and rear parts of the frame, you need to check the sag.
- When the rider is seated, the rider's weight can be set to 1G. This is an important step to take to fully utilize the performance of the motorcycle.

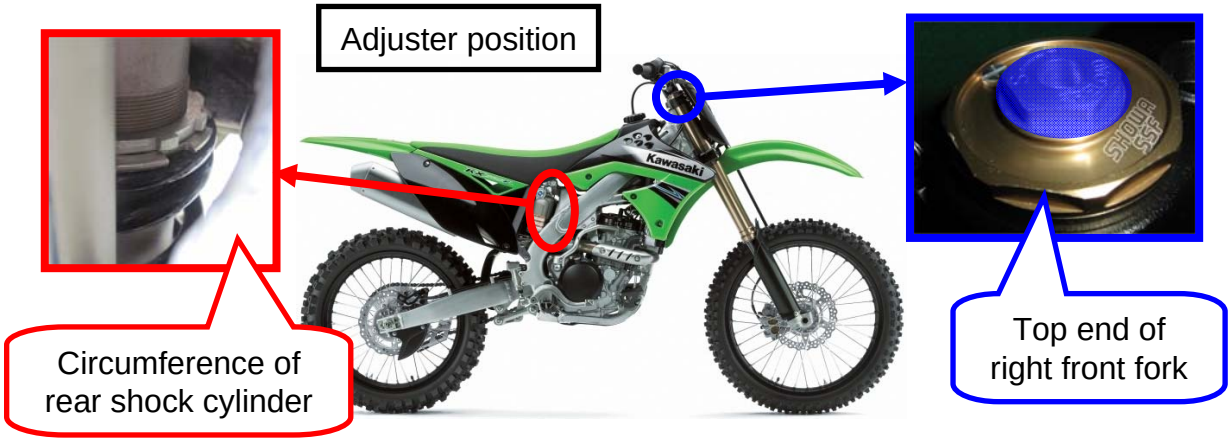
Note: The sag (1G of rider) is the amount that the height of the motorcycle decreases when the rider is seated. More precisely, the sag is the difference between the two distances: the distance from any reference position on the spring to the axle shaft when the suspension is fully extended, and the distance from any reference position on the spring to the axle shaft when the rider is seated.

* The adjustment process may be easy if any reference position on the spring is set at the bottom of front under bracket and at an intersection between the rear side plate and the rear fender.



Measured value A
– Measured value B
Sag

- The sag (1G of rider) is generally one third of the full stroke of the suspension system.
- Although it varies depending on the taste of each rider, the appropriate value is in the following ranges.
- You can adjust the sag (1G of rider) using the spring preload adjuster of the suspension.



	Appropriate value
Front forks	45 to 55 mm
Rear shock absorber	95 to 105 mm

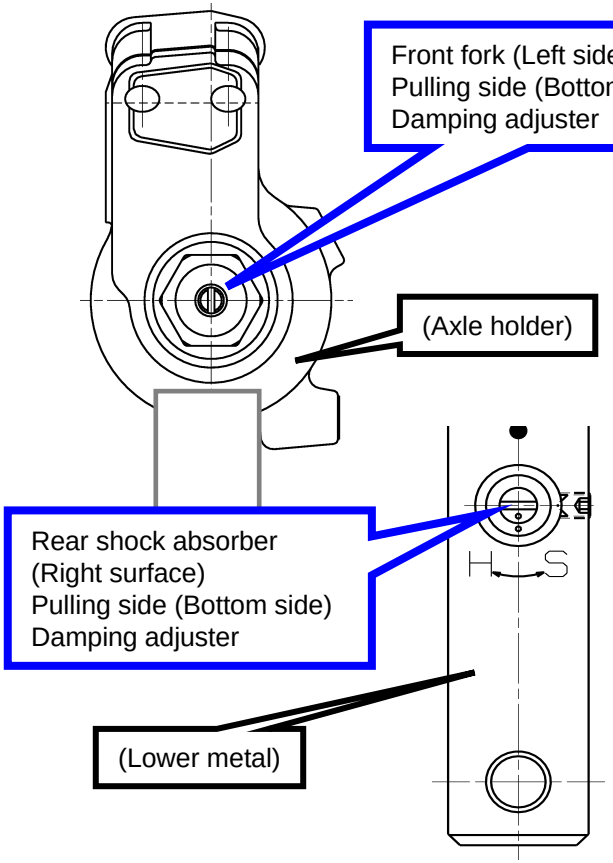
4. Adjustment of Suspension System

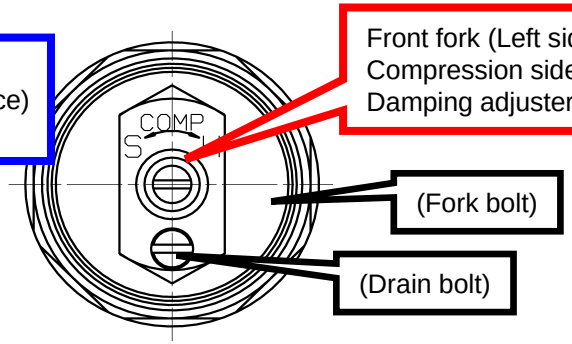
(2) Adjusting the damping force

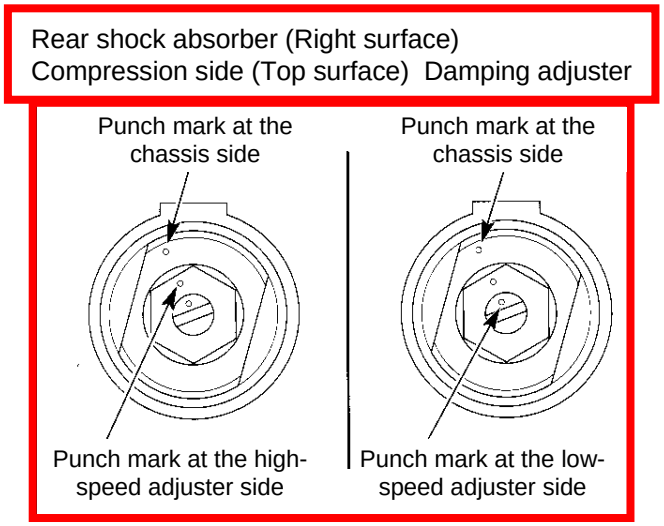
- Make sure that the damping force adjuster is in the normal status before riding.
- Set the damping force adjuster in the desired position by referring to the separate Setup Manual.

Caution: Do not force the adjuster notch when rotating it.

⇒ When (fully) tightened, the number of clicks may change due to the tightening force. Always set the adjuster using the same tightening force.






Rear shock absorber (Right surface)
Compression side (Top surface) Damping adjuster
Punch mark at the chassis side
Punch mark at the chassis side
Punch mark at the high-speed adjuster side
Punch mark at the low-speed adjuster side

5. Inspection and Maintenance of Suspension System

(1) Front forks

The front forks are not only a simple damper that affects the riding quality and shock absorption. They also have the important function of holding the front wheel of the motorcycle in place and forms part of the rigid motorcycle frame as described above. Routinely check and maintain the front forks to assure they are in a safe condition by following the important instructions given below.

- Oil leakage from the sealing
  When the motorcycle is brand new, some oil may leak out. However, this is oil that was added during the assembly process. Wipe it a few times and the oil leaks will stop.
- Check to see that the slider section (such as the slide pipes) is free of dents and rust.
  ⇒ If a seal is damaged, it may lead to an oil leakage.
  ⇒ After riding, always check to see that the slider section is free of dents.
- All nuts and bolts must be tight at the axle tightening part and the outer tube tightening part.
  If any fasteners are loose, rideability may be significantly reduce and, in the worst scenario, the motorcycle may roll over.
- The upper and lower brackets and the axle holder must be free of damage.
  Damages to these areas should not occur if the motorcycle is operated correctly.
  However, these points must be checked carefully as those damages may be fatal to humans.
  If a turnover or other accidents occurred, in particular, they must be inspected very carefully.
- The suspension system must operate smoothly.
  A bent slide pipe or other problems caused by a roll, collision or other accidents must be checked.
  ⇒ Because the slide pipe is made up of thin material, do not repair or reuse it if it is bent.
  All parts must be reassembled carefully. If they are assembled using an incorrect axis distance or if the fork is twisted due to a roll or other accident, the suspension system will not operate normally.
  ★ Before riding, be sure to check the operation of the suspension system (for example, check the operation of the front forks while you sit on the seat).
- After riding, we recommend that you wash the motorcycle and inspect the following points:
  ★ Scratches of slide pipe ★ Oil leakage ★ Looseness of tightened parts
- Replacing the oil in the front forks
  The front fork strokes and absorbs shock while riding. At the same time, a bending load is applied to the front forks in various directions, and its bushings or other components will gradually wear away. In addition, when the travel distance increases, the oil viscosity and other characteristics will change, and the damping force on the front forks may reduce.
  In such a case, replace the oil.
  ★ In general, replace the oil of the front forks three or four times a year (every three or four races).
  ⇒ When replacing the oil, we recommend that you replace the consumable parts such as slide bushings, guide bushings, oil seals, and dust seals.
- The drain bolt is mounted on the fork bolt area. This bolt releases the internal pressure of the front forks to that of atmospheric pressure.
  We recommend that you remove the drain bolt and release the internal pressure of the front fork to the atmospheric pressure before riding.

5. Inspection and Maintenance of Suspension System

(2) Rear suspension

The rear shock absorber is not only a simple damper that affects riding quality and shock absorption, it also has the important function of holding the rear wheel of the motorcycle through the frame link as described above.
Routinely check and maintain the front forks to assure safety by following the important instructions given below.

- Oil leakage from the sealing
  When the motorcycle is brand new, oil may leak. However, this is oil that was added during the assembly process. You can wipe it a few times and the oil leaks will stop.
- Check to see that the slider section (such as the rod) is free of dents and rust.
  ⇒ If a seal is damaged, it may lead to an oil leakage.
  ⇒ After riding, always check to see that the slider section is free of dents.
- All nuts and bolts must be tight at the rear shock absorber mounting area.
  If any fasteners are loose, the rideability may be significantly reduced and, in the worst scenario, the motorcycle may roll over.
- After riding, we recommend that you wash the motorcycle and inspect the following points:
  ★ Scratches on rod surface ★ Oil leakage ★ Looseness of tightening parts
- Handling of the rear shock absorber
  The rear shock absorber is filled with high pressure nitrogen gas.
  Never disassemble the rear shock absorber, and never expose it to an open flame or fire.

(3) Other notes

⚠ If you feel any abnormalities while riding, stop immediately and check the suspension system.

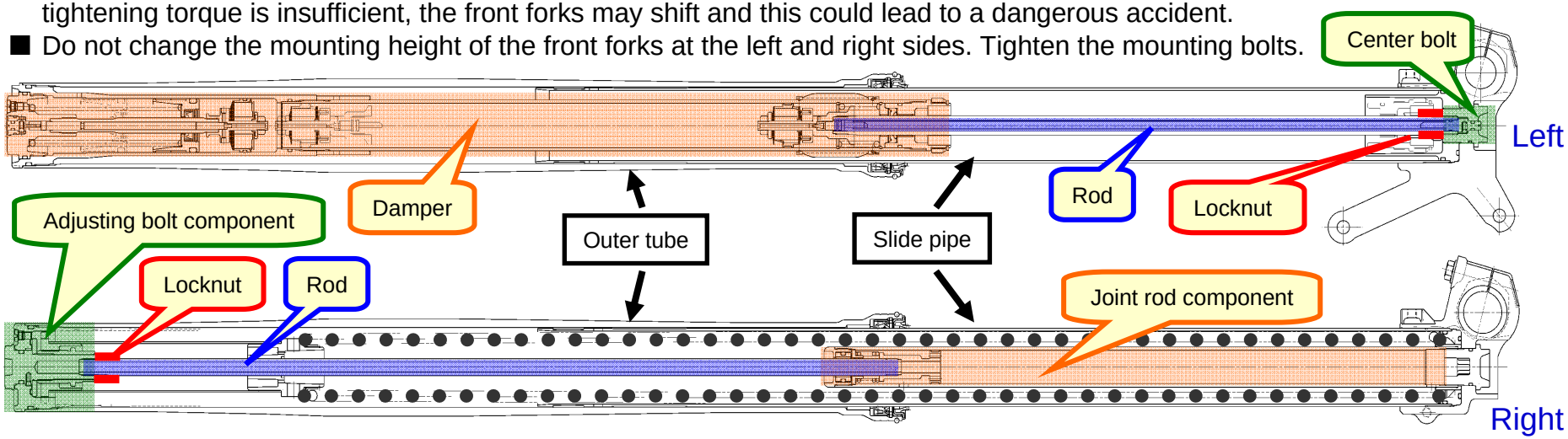
6. Overhauling of Suspension System

(1) Front forks

- Before disassembling the front forks, always remove mud and dust by washing the motorcycle.
- (Left side) Before beginning disassembly, check the current setting position of the damping force adjuster.
- (Left side) When disassembling the suspension system, set the damping force adjuster to the loosest adjustment position.
- Read the Service Manual and follow the relevant procedure during overhauling.
- When disassembling the suspension system, exercise care not to damage the sliding surface of the slide pipe and the rod surface with your tools.
- Use the specified special tools only.
- (Left side)If you have removed the damper and adjusting bolt component (right side) and if you fully extend the slide pipe and the outer tube, the guide bushing and the slide bushing may contact each other and be damaged. Exercise care not to damage them (except when replacing the bushings).
- (Left side) When you tighten the damper rod and the bottom center bolt, fully mount the locknut on the rod by hand. Then, tighten the center bolt the whole way in. After that, tighten the locknut.
- (Right side) When you tighten the rod of the joint rod component and the upper adjusting bolt component, fully mount the locknut on the rod by hand. Then, tighten the adjusting bolt component the whole way in. After that, tighten the locknut.
- Mount the snap ring of the oil seal correctly into the groove.
- Tighten all parts with the correct torque specified in the Service Manual.

⇒ If you tighten the under bracket excessively, the suspension system may experience an operation error. However, if the tightening torque is insufficient, the front forks may shift and this could lead to a dangerous accident.

- Do not change the mounting height of the front forks at the left and right sides. Tighten the mounting bolts.

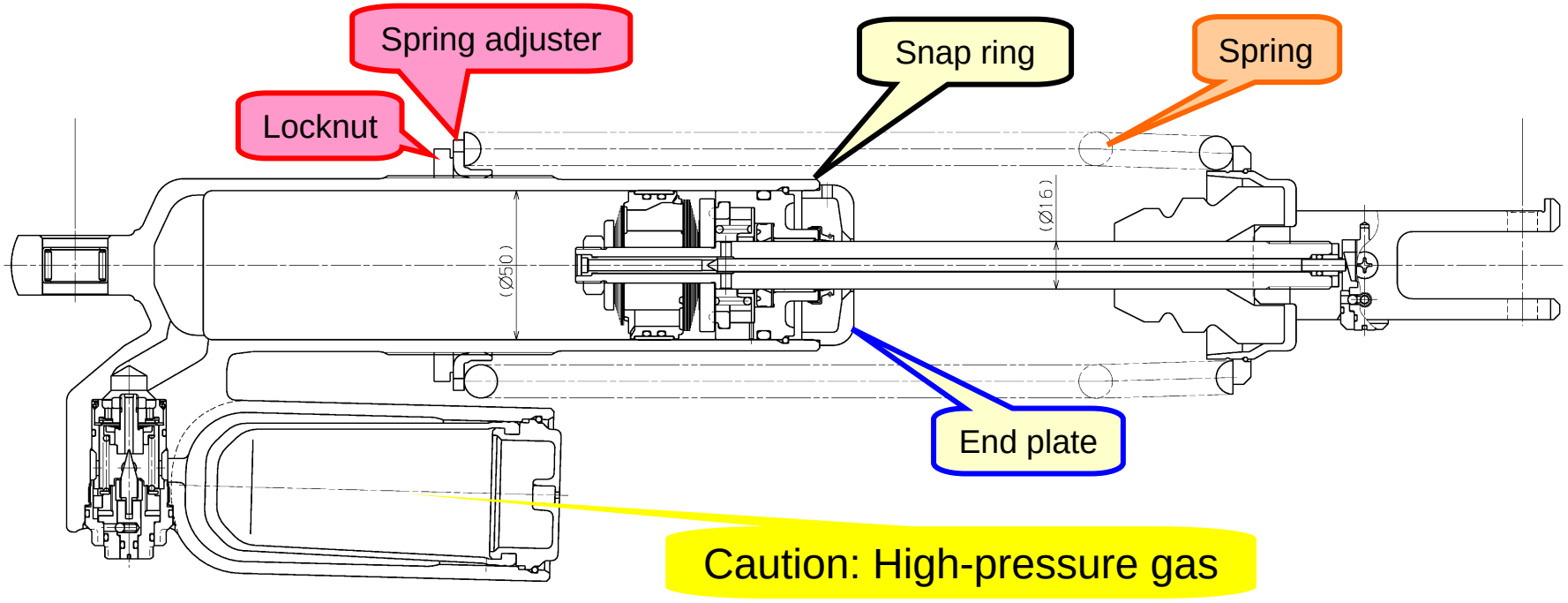


6. Overhauling of Suspension System

(2) Rear suspension

- Before disassembling the front forks always remove mud and dust by washing the motorcycle.
- Before beginning disassembly, check the current setting position of the damping force adjuster.
- When disassembling the suspension system, set the damping force adjuster to the loosest adjustment position.
- Before removing the spring, measure the spring length and place the markings on the locknut and the spring adjuster. These markings will be very useful during reassembly.
- Before disassembling the rear shock absorber, make sure that the high-pressure gas contained inside has been removed.
- Wash and clean the end plate to remove any remaining mud.
- During reassembly, mount the snap ring in the groove correctly.

⇒ If the snap ring is not mounted correctly, a problem may occur while riding. In the worst case, oil may leak out and riding may become very dangerous. Make sure that the snap ring is correctly mounted in the groove.



7. Suspension System Setting

Preparation before setting

(1) When you set the suspension, be sure to check the adjuster position and sag data correctly.
⇒ We suggest that you record them them on a setting chart and others.
⇒ When you compare the data with the past log, you can easily identify the current problem.
(2) If you have checked the remaining suspension stroke while riding, you can determine the setting (softer or harder) and determine the front and rear balance of the motorcycle.
(3) If you roll the motorcycle or have another type of accident, check the suspension system and each fastener carefully.
(4) The following provides typical examples for when you are talking with a rider. You can answer as follows.

Example of a suspension setting chart

7. Suspension System Setting

Settings for straight-line riding

FF/RC	Problem	Possible causes	Solutions
FF	• Too low and hard at the braking gap.	• The tension (TEN) damping force is too high, and packed.	• Increase the effective stroke by reducing the tension (TEN) damping force.
		• The stroke is large due to the poor reaction.	• Add oil to increase the pressure and the effective stroke. • Raise the stroke position by increasing the initial force of the main spring.
FF	• Too hard in an intermediate area at the braking gap.	• The main spring is too rigid.	• Reduce the main spring rate.
		• The BCV is too hard.	• Set the BCV correctly (see the separate "BCV Setting Table").
		• The oil lock is too tight.	• Reduce the clearance of oil lock valve. • Change the tapered angle and length of the bottom holder.
FF	• The head shakes on the braking gap.	• The compression damping force is too large, and the head is springy.	• Increase the stroke by reducing the compression damping force.
		• Springy due to the high reaction force.	• Reduce the amount of oil to release the spring force. • Increase the stroke by reducing the main spring rate.
FF	• Cloudy and unstable.	• Insufficient tension (TEN) damping force.	• Improve the controllability by increasing the tension (TEN) damping force.
		• Insufficient compression (COMP) damping force.	• Improve the controllability by increasing the compression (COMP) damping force.
		• The main spring is too soft.	• Increase the reaction force by increasing the main spring rate.
RC	• Kick-up occurs during braking.	• The compression (COMP) damping force is too large.	• Reduce the damping force for the COMP Hi speed.
		• Insufficient tension (TEN) damping force.	• Increase the damping force for the TEN Hi speed.
RC	• Not smooth on the gap during acceleration. (Too hard)	• The RC sinks due to the engine power, and the fork strokes are too long.	• Increase the damping force for the COMP Lo speed. (The damping force must not increase for MID - Hi speed.)
		• The main spring rate is too high and there is insufficient initial force.	• Reduce the main spring rate to increase the initial force.
		• The tension (TEN) damping force is too high, and packed.	• Increase gap traceability by reducing the tension (TEN) damping force.
RC	• Cloudy and unstable.	• Insufficient tension (TEN) damping force.	• Improve the controllability by increasing the tension (TEN) damping force.
		• Insufficient compression (COMP) damping force.	• Improve the controllability by increasing the compression (COMP) damping force.
		• The main spring is too soft.	• Increase the reaction force by increasing the main spring rate.

7. Suspension System Setting

Settings for cornering

FF/RC	Problem	Possible causes	Solutions
FF	• The motorcycle dives when approaching a corner.	• Insufficient reaction force, and the MC easily dives.	• Raise the main spring rate to create a sensation of progression. • Increase the reaction force by increasing the amount of oil.
		• The damping force is insufficient, and the MC is unstable.	• Increase the compression (COMP) damping force to improve the MC stability. • Set the BCV (see the separate "BCV Setting Table").
FF	• It is difficult to trace the cornering line due to the poor traction. (A push-out or others occur.)	• The tension (TEN) damping force is too high, and gap traceability is poor.	• Reduce the damping force for the TEN Lo - MID speed.
		• The compression (COMP) damping force is too high, and gap traceability is poor.	• Reduce the damping force for the COMP Lo - MID speed.
		• The BCV is too hard.	• Set the BCV (see the separate "BCV Setting Table").
FF	• Cloudy and poor traction. Too large movement.	• Insufficient tension (TEN) damping force.	• Increase the damping force for the TEN Lo - MID speed.
		• Insufficient compression (COMP) damping force.	• Increase the damping force for the COMP Lo - MID speed.
		• The BCV is too soft.	• Set the BCV (see the separate "BCV Setting Table").
FF	• Handling is heavy.	• The tension (TEN) damping force is too high, and handling feels heavy.	• Reduce the entire tension (TEN) damping force.
RC	• It is difficult to trace the cornering line due to the poor traction.	• The tension (TEN) damping force is too high, and gap traceability is poor.	• Reduce the damping force for the TEN Lo - MID speed.
		• The compression (COMP) damping force is too high, and gap traceability is poor.	• Keep the damping force for the COMP Lo speed, but reduce the damping force for the MID - Hi speed.
RC	• The gripping force of the rear wheel is insufficient during acceleration, and traction is poor.	• The damping force is insufficient for COMP Lo speed.	• Increase the damping force for the COMP Lo speed. (The damping force must not increase for MID - Hi speed.)
RC	• Cloudy and poor traction. Too large movement.	• Insufficient tension (TEN) damping force.	• Increase the damping force for the TEN Lo - MID speed.
		• Insufficient compression (COMP) damping force.	• Increase the damping force for the COMP Lo - MID speed.

7. Suspension System Setting

Settings for jumping

FF/RC	Problem	Possible causes	Solutions
FF	• The suspension strokes excessively when the motorcycle is jump started or grounded.	• Insufficient damping force against G force. Insufficient compression (COMP) damping force.	• Increase the damping force for the COMP MID - Hi speed.
		• Insufficient reaction force.	• Increase the amount of oil. • Increase the main spring rate.
FF	• The suspension bottom out occurs when grounded after jump.	• Insufficient oil lock load.	• Increase the oil-lock load.
FF	• Suspension feels hard after a jump.	• The oil lock load is too high.	• Reduce the oil lock load.
FF	• The front forks raise when the motorcycle is jump started.	• Insufficient tension (TEN) damping force.	• Increase the damping force for the TEN MID speed.
RC	• The suspension strokes excessively when jumping or riding on the ground.	• Insufficient damping force against G force. Insufficient compression (COMP) damping force.	• Increase the damping force for the COMP MID - Hi speed. • Raise the C/A valve. • Reduce the restrictor (continuous hole) diameter.
		• Insufficient reaction force.	• Increase the main spring rate.
RC	• Rear kick-up occurs when the motorcycle is jump started.	• Insufficient tension (TEN) damping force.	• Increase the damping force for the TEN MID speed.
		• The compression (COMP) damping force is too large.	• Reduce the damping force for the COMP MID speed.
		• The reaction force is too large.	• Reduce the main spring rate.
RC	• The rear height is insufficient when the motorcycle is jump started.	• The tension (TEN) damping force is too large.	• Reduce the damping force for the TEN MID speed.
		• Insufficient compression (COMP) damping force.	• Increase the damping force for the COMP MID speed.
		• Insufficient reaction force.	• Increase the main spring rate.

7. Suspension System Setting

Settings for up-hill riding

FF/RC	Problem	Possible causes	Solutions
FF	• The front tire has poor griping ability.	• The compression (COMP) damping force is too large.	• Reduce the damping force for the COMP Lo speed.
		• The tension (TEN) damping force is too large.	• Reduce the damping force for the TEN Lo speed.
RC	• The rear height is insufficient when started to rise.	• Insufficient compression (COMP) damping force.	• Increase the damping force for the COMP Lo speed.
		• Insufficient reaction force.	• Increase the initial force of the main spring. • Increase the main spring rate.
RC	• Traction is insufficient on the rising gap.	• Insufficient compression (COMP) damping force.	• Increase the damping force for the COMP MID speed.
		• The tension (TEN) damping force is too large.	• Reduce the damping force for the TEN MID speed.
RC	• The operation is not smooth on the rising gap.	• The tension (TEN) damping force is too large.	• Reduce the damping force for the TEN MID speed.
		• The reaction force is too large (and the stroke is large).	• Reduce the main spring rate to increase the initial force.
RC	• Cloudy and too many strokes while rising.	• Insufficient tension (TEN) damping force.	• Increase the damping force for the TEN MID speed.
		• Insufficient compression (COMP) damping force.	• Increase the damping force for the COMP Lo - MID speed.

7. Suspension System Setting

Settings for down-hill riding

FF/RC	Problem	Possible causes	Solutions
FF	• The motorcycle dives when braking while riding down hill.	• Insufficient compression (COMP) damping force.	• Increase the entire compression (COMP) damping force.
		• Insufficient reaction force.	• Increase the amount of oil. • Increase the main spring rate.
		• Insufficient BCV.	• Set the BCV (see the separate "BCV Setting Table").
FF	• The spring is hard when deeply stroked on a down-hill.	• The oil lock load is too large.	• Reduce the oil lock load.
FF	• The suspension is hard and springy on a down-hill gap.	• The compression (COMP) damping force is too large.	• Reduce the damping force for the COMP MID - Hi speed.
		• The reaction force is too large.	• Reduce the amount of oil. • Reduce the main spring rate.
RC	• Rear wheel kick-up occurs when riding down hill.	• The compression (COMP) damping force is too large.	• Reduce the damping force for the COMP MID - Hi speed.
		• Insufficient tension (TEN) damping force.	• Increase the entire tension (TEN) damping force.
		• Poor C/A damping force control. (The oil returns too fast.)	• Reduce the inner diameter of the C/A return ring. • Reduce the restrictor (continuous hole) diameter.
RC	• The suspension is hard and springy on a down-hill gap.	• The compression (COMP) damping force is too large.	• Reduce the damping force for the COMP MID - Hi speed.
		• The tension (TEN) damping force is too large.	• Reduce the entire tension (TEN) damping force.
		• Poor C/A damping force control. (The oil returns too slowly.)	• Increase the inner diameter of the C/A return ring. • Increase the restrictor (continuous hole) diameter.

8. Modifications of 2011 Model Suspension System

(1) Front forks

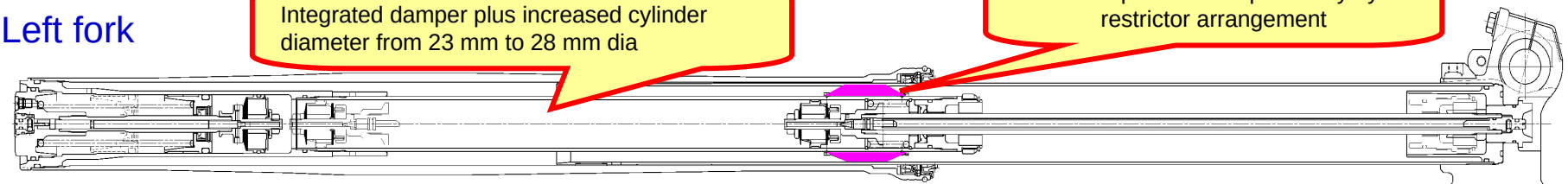
Adoption of SFF **(Separate Function front Fork)**

Features: Single-side damper and spring mounting realizes reduced friction between parts and improved riding quality.

Left fork

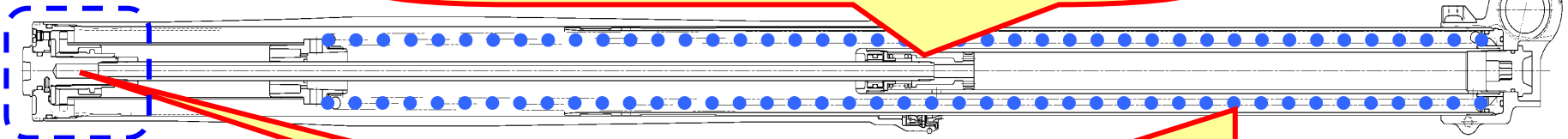
Integrated damper plus increased cylinder diameter from 23 mm to 28 mm dia

Added positional dependency by restrictor arrangement



Right fork

Added joint rod component ⇒ No DF ⇔ Rebound support/Long spring centering/Reduced stiffness difference between left and right forks

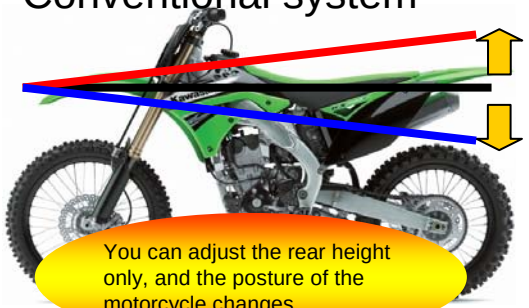


Spring preload adjustment
⇒ Increased setting range

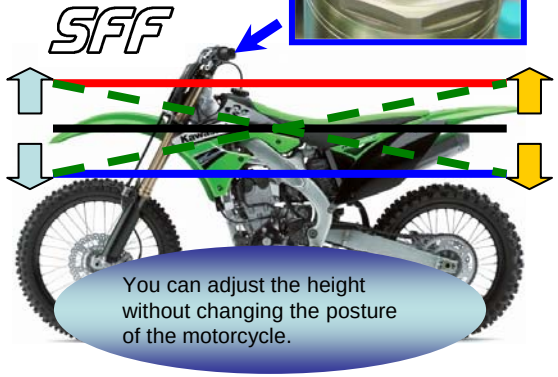
Reduced friction by integrated spring

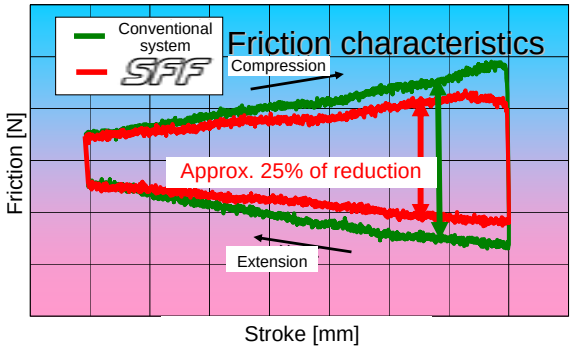
Reduced friction between parts
⇒ Improved riding quality

Conventional system



SFF

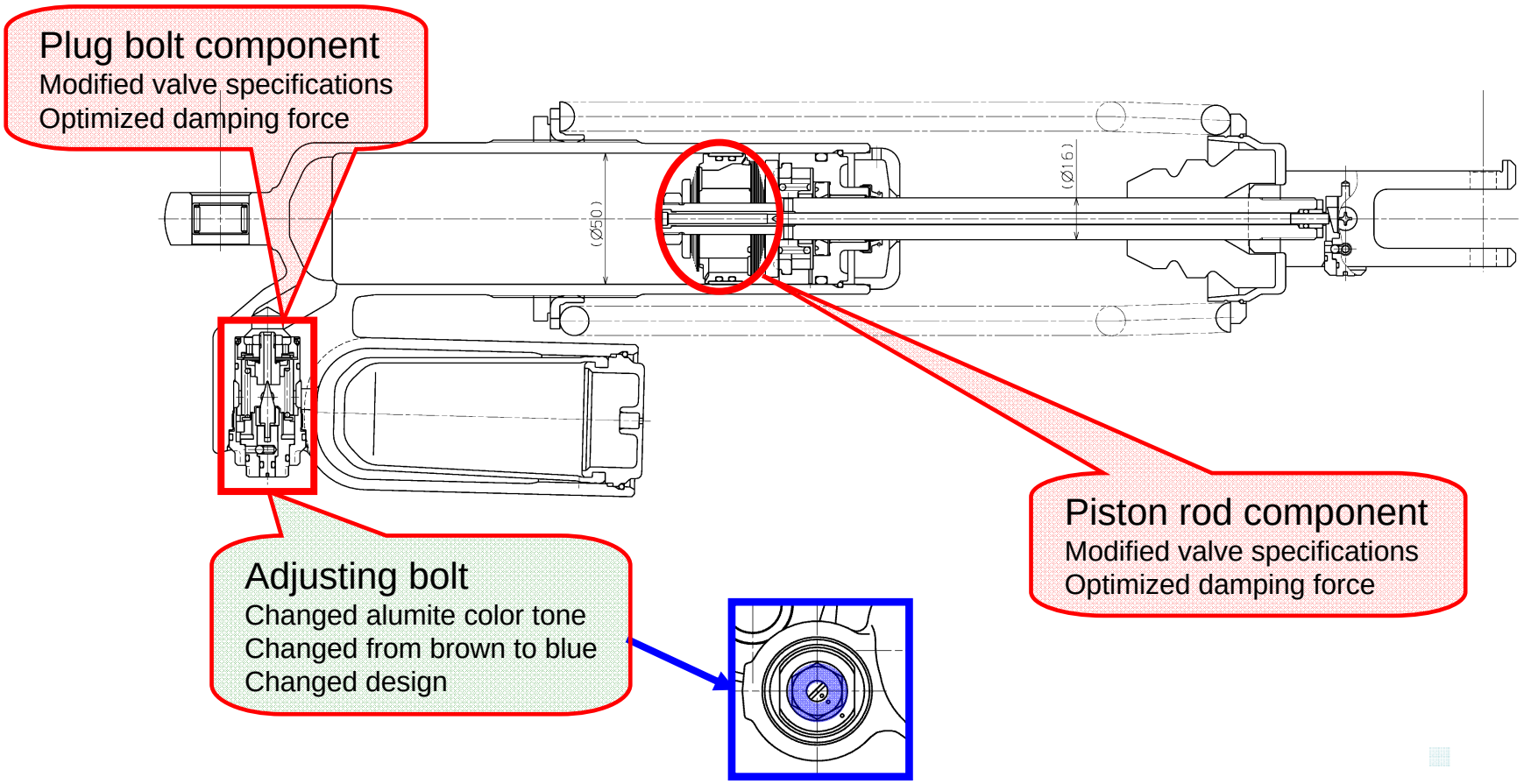




8. Modifications of 2011 Model Suspension System

(2) Rear suspension

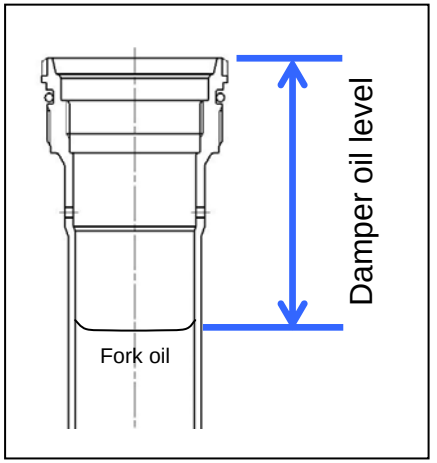
Features: Optimized damping force according to the improved traction by fuel injection (FI) system



9. Information about 2011 Model Suspension System

(1) Front forks

		United States model	European model	Japanese model
Rebound (tension) damping	Adjusting range	Total number of clicks: 20 ± 4		
	Standard number of adjuster clicks	MAX -10	MAX -12	MAX -10
Compression side	Adjusting range	Total number of clicks: 22 ± 6		
	Standard number of adjuster clicks	MAX -7	MAX -9	MAX -7
Preload	Adjusting range	Total number of clicks: 60 ± 6		
	Standard number of adjuster clicks	MIN +22	MIN +28	MIN +24
Extent of fork bounce (mm)		7		
Standard spring (N/mm)		9.1		
Right	Standard oil amount (ml)	155		
	Oil amount adjusting range (ml)	130 to 500		
Left	Standard oil amount (ml) (Outer cylinder: Outside of damper comp)	357		
	Oil amount adjusting range (ml)	342 to 381		
Damper oil amount (inside of damper comp) (ml)		260		
Damper oil level during assembling (mm)		* 115 to 123		
Standard oil amount of optional spring (K = 9.5 N/mm) (ml)		155		
Oil amount adjusting range at right side (ml)		130 to 492		
Standard oil amount of optional spring (K = 8.7 N/mm) (ml)		155		
Oil amount adjusting range at right side (ml)		130 - 508		
Recommended oil brand		Showa's SS-19		

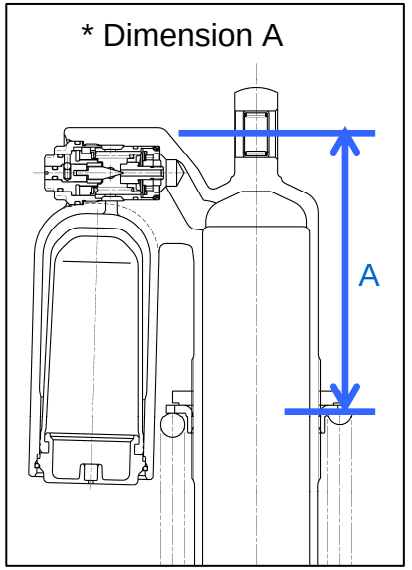


* Damper oil level measurement position

9. Information about 2011 Model Suspension System

(2) Rear suspension

		United States model	European model	Japanese model (Same as the US model)
Rebound (tension) damping	Adjusting range	Total number of clicks: 22 ± 5		
	Standard number of adjuster clicks	MAX -10	MAX -12	MAX -10
High-speed compression damping	Adjuster adjusting range (rotations)	Total number of clicks: 4 ± 0.5		
	Standard adjuster clicks (rotations)	MAX -2	MAX -1	MAX -2
Low-speed compression damping	Adjusting range	Total number of clicks: 19 ± 6		
	Standard number of adjuster clicks	MAX -11	MAX -8	MAX -11
Standard spring (N/mm)		51		
Standard spring mount length (mm)		259	257.5	259
Standard setting position (mm) * Dimension A		129.8	131.3	129.8
Mounting length adjusting range (mm)		255 - 263		
Set position adjusting range (mm) * Dimension A		125.8 to 133.8		
Mounting length adjusting range (mm) (Optional spring: K = 53.9 N/mm)		252 to 263		
Set position adjusting range (mm) * Dimension A		125.8 to 136.8		
Mounting length adjusting range (mm) (Optional spring: K = 53 N/mm)		249.3 to 236		
Set position adjusting range (mm) * Dimension A		125.8 to 139.5		
Mounting length adjusting range (mm) (Optional spring: K = 52 N/mm)		253.5 to 263		
Set position adjusting range (mm) * Dimension A		125.8 to 135.3		
Mounting length adjusting range (mm) (Optional spring: K = 50 N/mm)		254.9 to 263		
Set position adjusting range (mm) * Dimension A		125.8 to 133.9		
Mounting length adjusting range (mm) (Optional spring: K = 49 N/mm)		253 to 263		
Set position adjusting range (mm) * Dimension A		125.8 to 135.8		
Mounting length adjusting range (mm) (Optional spring: K = 48.1 N/mm)		252.6 to 263		
Set position adjusting range (mm) * Dimension A		125.8 to 136.2		
Mounting length adjusting range (mm) (Optional spring: K = 47 N/mm)		249.5 to 263		
Set position adjusting range (mm) * Dimension A		125.8 to 139.3		



* Dimension A
This is a reference distance between the center of upper needle bearing and the spring upper surface.

9. Information about 2011 Model Suspension System

(3) Optional springs

11M Standard parts

11M Optional parts

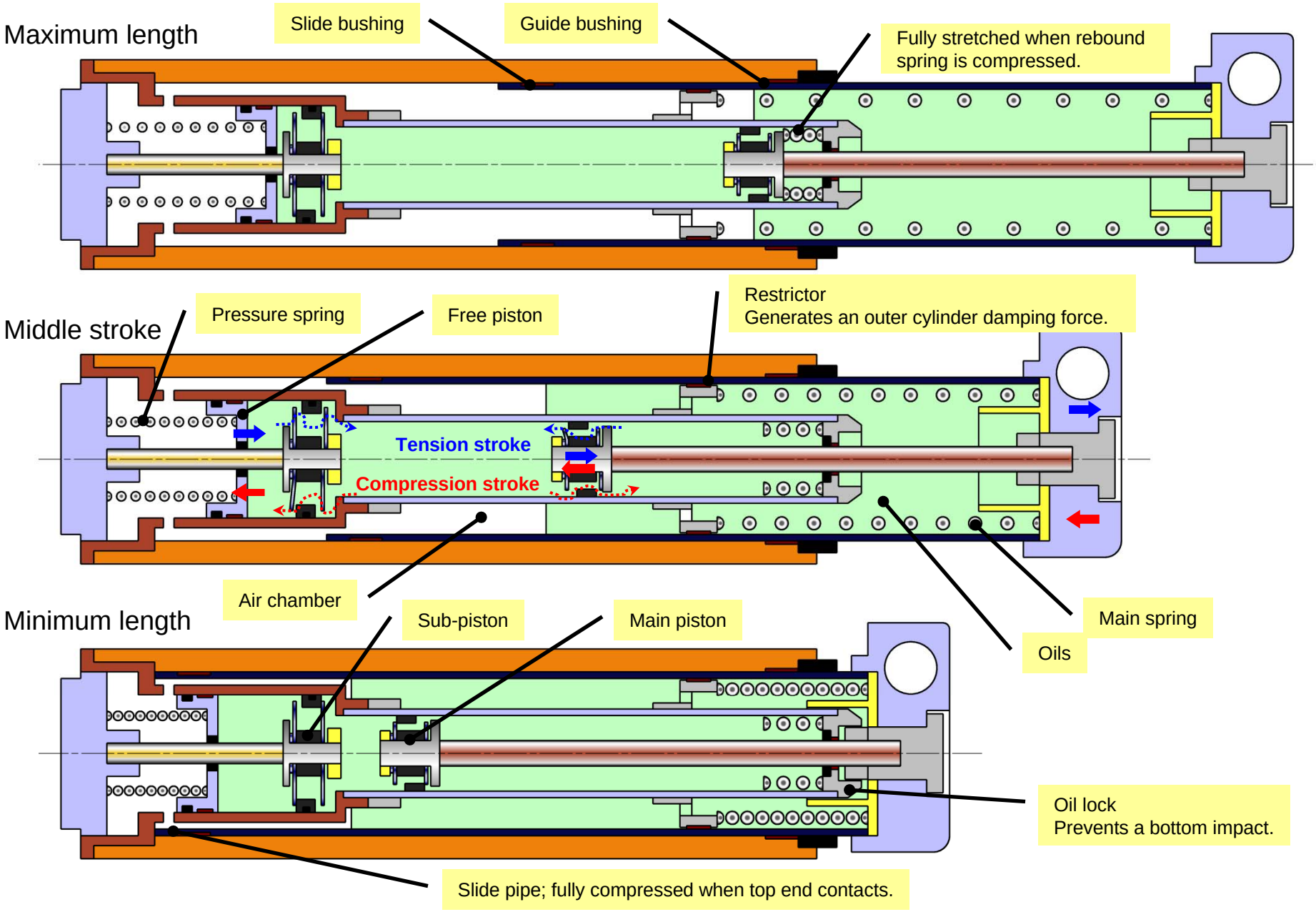
Optional springs of front fork

Spring constant	KAWASAKI parts #	Identification	Remarks
K = 8.7 N/mm	**44026-0156**	2 grooves (45°)	11M SOFT
K = 9.1 N/mm	**44026-0152**	1 groove	11M Standard
K = 9.5 N/mm	**44026-0157**	2 grooves (parallel)	11M HARD

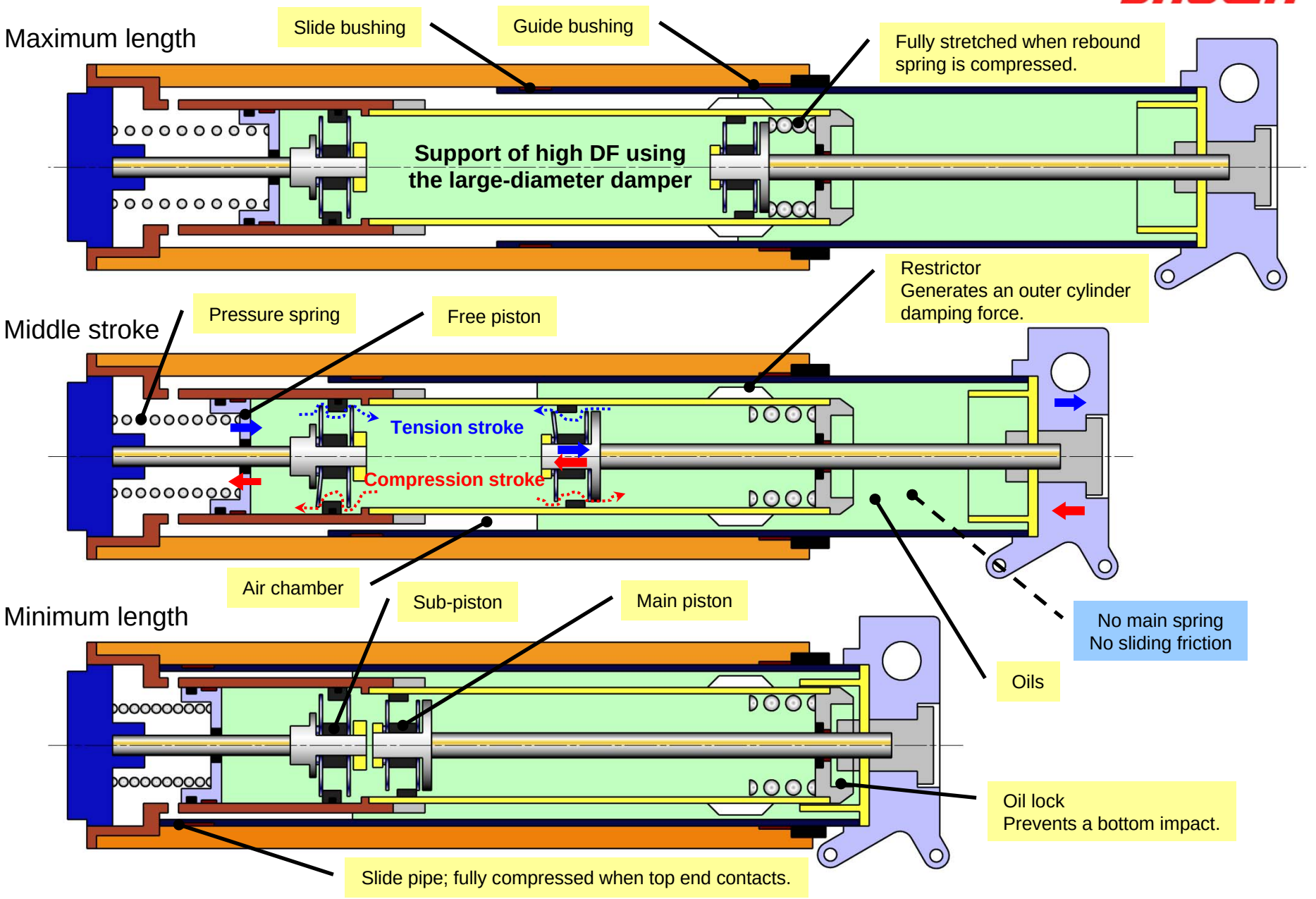
Optional springs of rear shock absorber

Spring constant	KAWASAKI parts #	Identification	Remarks
K = 47 N/mm	**92145-0464**	Silver painted	SOFT
K = 48.1 N/mm	**92145-0411**	Black painted	SOFT
K = 49 N/mm	**92145-0465**	Orange painted	11M SOFT
K = 50 N/mm	**92145-0346**	White painted	SOFT
K = 51 N/mm	**92145-0463**	Yellow painted	11M Standard
K = 52 N/mm	**92145-0321**	Blue painted	HARD
K = 53 N/mm	**92145-0466**	Green painted	11M HARD
K = 53.9 N/mm	**92145-0347**	Red painted	HARD

KX250X Right Fork Oil Flow Model



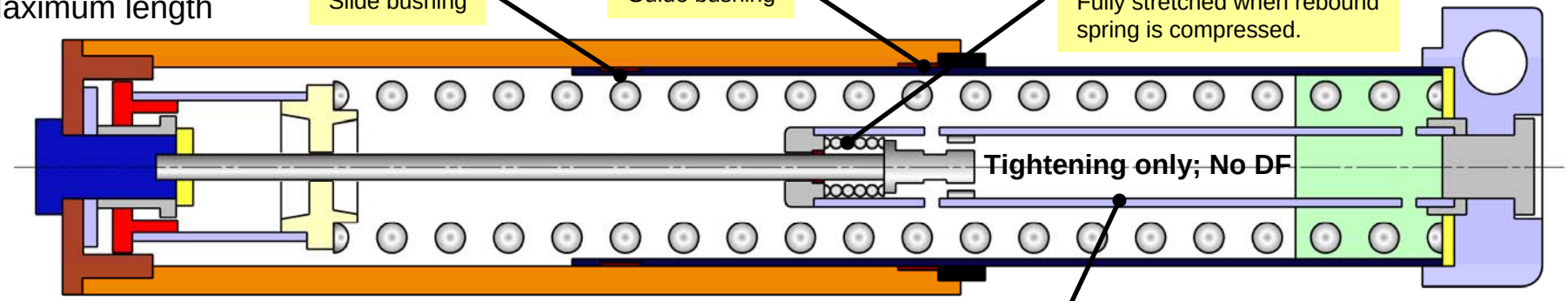
SFF (KX250Y) Left Fork Oil Flow Model



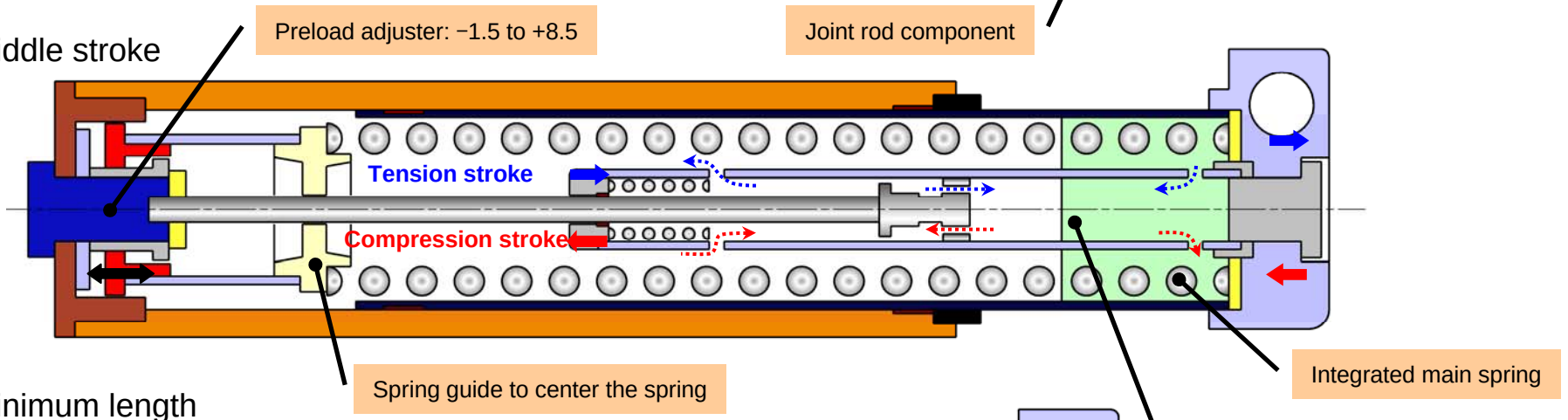
SFF (KX250Y) Right Fork Oil Flow Model

SHOWA

Maximum length



Middle stroke



Minimum length